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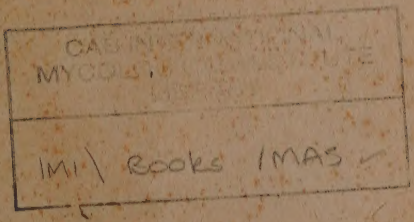

EUROPEAN FUNGUS FLORA

AGARICACEAE

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To my friend Dr M. C. Cooke, to whom in matters Mycological I cannot sufficiently express my indebtedness; I have much pleasure in dedicating this attempt to introduce to British Mycologists, the Agarics of European countries.

GEO. MASSEE.

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PREFACE.

OBSERVATIONS extending over a period of twenty-five years, made at Fungus Forays and kindred meetings where Mycologists assemble together, has led to the conviction that familiarity with the Fungi and literature pertaining thereto, of one country only, leads to a false impression as to the significance of the term 'species.'

It conveys the idea that species are much more sharply defined than proves to be the case, when the entire Fungus Flora of Europe is included.

In all large genera common to European countries, the continental species can be sandwiched between British species. Even in large genera there are as a rule not more than eight or ten primary differentiating specific characters present, and it is the constant correlation of two or three of those primary characters that constitute a species, as understood at the present day.

If two British species are characterised respectively by the marks 1, 2, and 3, 4, then we find that two continental species belonging to the same genus will be indicated by the characters 1, 3, and 2, 4, respectively.

Primary specific characters should include only those features that are constant, and not materially modified by geographical or exceptional local conditions as to environment, etc., and such alone should constitute a specific diagnosis. Trivial or local characteristics should follow the essential diagnosis as a rider.

With the introduction of characters due to local conditions, a description ceases to be a specific diagnosis in the proper sense, and is merely a description of a certain state of a species occurring under a given set of conditions. Such, however, is too frequently the nature of so-called specific characters given in local Floras.

A lengthy and laboured description suggests lack of power to grip essentials on the part of the compiler, and does not as a rule facilitate the recognition of the species intended.

The idea of this work is to give the essential characters of each species as presented by pileus, gills, stem and spores respectively. This, however, owing to the views of some authors as to the predominant value of one feature to the exclusion of others, has not always been possible. For this reason the species of Britzelmayr are not included, as his descriptions, even when aided by what are presumably intended as figures, could not in many instances be construed into an intelligible diagnosis.

In Cooke and Quélet's *Clavis Synoptica Hymenomycetum Europaeorum* (1878), 1943 species of Agarics are recorded as European, and of these 939 are given as British. The present work includes descriptions of 2750 European species, of which 1553 are British, a number considerably in excess of that recorded for the species of any other European country.

The species indicated by brackets have not been recorded as British.

G. M.

Kew, *June*, 1902.

AGARICACEAE, Fries.

Hymenium covering the entire surface of radiating lamellae or gills. Spores one-celled.

Primary divisions of the Agaricaceae depend on the colour of the spores as seen in the mass, when deposited on an opaque substance; and not as seen under the microscope by transmitted light.

I. Leucosporae.

Spores white. In some cases with a tinge of yellow or pink. In some species of *Russula* the spores are clear ochre, but such species belong obviously to *Russula* notwithstanding.

II. Chlorosporae.

Spores clear green or bluish-green.

III. Rhodosporae.

Spores salmon-colour or pink.

IV. Ochrosporae.

Spores ochraceous or rust-colour.

V. Melanosporae.

Spores black, blackish-brown, or black with a purple tinge.

LEUCOSPORAE.

I. Haplophyllae.

Margin of gills acute; i.e. not longitudinally split or grooved.

* Molles. More or less fleshy, soft, and soon decaying or shrivelling (not corky, woody, or rigid).

† *Ring, or volva, or both present, or gills free.*

Amanita. Volva and ring present. Gills usually free, rarely adnexed or adnate. (Volva sometimes not evident round base of stem, but loose patches on pileus prove its presence.)

Amanitopsis. Volva present, ring absent; gills free.

Lepiota. Ring present, volva absent; gills free. (In some sp. the ring is imperfect, and in a few the gills are slightly attached.)

Hiatula. Gills free; volva and ring absent.

Armillaria. Ring present, volva absent; gills attached.

†† *Gills adnexed or adnate; ring and volva absent.*

Tricholoma. Gills sinuate: stem fleshy.

Russula. Pileus fleshy; gills very rigid, brittle.

Mycena. Pileus slender, campanulate, usually striate, margin straight and adpressed to stem when young.

Collybia. Pileus rather fleshy, more or less plane, margin incurved when young: stem cartilaginous outside.

Marasmius. Tough, drying up and reviving when moistened; gills often connected by veins.

††† *Gills decurrent.*

Lactarius. Gills and flesh exuding milk when broken. (In some sp. the gills are adnate.)

Hygrophorus. Gills thick at the base, edge acute, rather waxy, often branched; pileus often hygrophanous. (In some sp. the gills are adnate or even free.)

Clitocybe. Gills thin, pliant, sometimes powdered with the spores; stem fibrous outside.

Omphalia. Gills thin, pliant, stem cartilaginous outside.

Pleurotus. Growing on wood. Stem lateral or excentric when present.

Cantharellus. Gills narrow, edge thick, rather waxy, forking.

Arrhenia. Gills reduced to very slight wrinkles or veins.

Nyctalis. Gills thick, edge blunt. Parasitic on fungi, or among dead leaves, &c.

** TENACES. Coriaceous, corky, or woody, persistent, rigid when dry.

Lentinus. Pileus coriaceous; gills decurrent, edge toothed or eroded.

Panus. Pileus coriaceous; gills decurrent, edge quite entire.

Xerotus. Pileus coriaceous; gills forking, edge thick.

Lenzites. Horizontal, sessile, woody or corky; gills radiating from behind.

II. SCHIZOPHYLLAE.

Margin of gills split open.

Trogia. Gills resembling folds or wrinkles, edge grooved. (In the only European species the edge of gills not grooved.)

Schizophyllum. Margin of gills split, the split portions rolling outwards.

Abbreviations used.

Cm. = centimetres: compr. = compressed; decur. = decurrent; depr. = depressed; exp. = expanded; g. = gills: hygr. = hygrophanous: infundib. = infundibuliform; mm. = millimetres: p. = pileus; s. = stem: sp. = spores: umb. = umbonate: umbil. = umbilicate.

The measurement given of the stem is that of its average length; that of the pileus, its average breadth when expanded. The measurement of the spores is given in micro-millimetres, usually indicated by the Greek letter μ.

AMANITA, Fries.

* *Margin of volva free, persistent.*

+ *Pileus red or deep orange.*

caesarea, Scop. P. hemispherical then exp. orange or red, edge striate, flesh yellowish: g. yellow: s. stout, yellow, ring and volva lax; sp. 8—10 × 6. Edible.

++ *Pileus white, sometimes tinged yellow or green.*

virosa, Fr. Entirely white. P. 8—11 cm. conical, then expanded: viscid when moist: g. free, crowded: s. 10—12 cm. slightly thinner upwards, squamulose, ring near apex, torn, volva large, lax: sp. subglobose, 8—10. Poisonous.

phalloides, Fr. P. 7—10 cm. viscid, obtuse, white, tinted yellow or greenish: g. free, white: s. 7—10 cm. white, tapering upwards, bulbous, ring large, volva large, margin irreg. free: sp. subglobose, 7—8. Poisonous.

mappa, Fr. Smell strong. P. 6—9 cm. convex then expanded, dry, white or yellowish, usually with patches of the volva: g. adnexed, white: s. 5—8 cm. white, bulbous, ring torn, volva without a large, free margin: sp. subglobose, 7—9. Poisonous.

Differs from *A. phalloides* in shorter equal stem.

ovoidea, Bull. White. P. silky, margin incurved, even: s. squamulose.

coccola, Scop. White: margin of p. incurved, sulcate: s. villose; sp. 11—12 × 8.

[lepiotoides, Barla. At first entirely closed in brown volva. P. exp. edge striate, squamulose, whitish, cuticle broken into greyish tawny areolae or scales: g. broad, whitish, brownish when bruised: s. yellowish-white, squamulose, ring thin, fugacious.

+++ *Pileus yellow, sometimes tinged red.*

junquillea, Q. P. pale orange or lemon yellow, viscid, deeply striate: g. adnexed: s. and fugacious ring yellowish-white, base ovoid-bulbous, volva circumscissile.

[**vernalis**, Gillet. P. exp. pale dingy yellow with tinge of red, with scattered white scales; g. free, white, broadest in front; s. white, squamulose below the ring, base bulbous, volva ample margin free. In early spring.

[**lutea**, Otth. P. conical, exp. yellow or yellowish ochre, edge invol. slightly striate, disc papillose, viscid, usually with broad scattered scales; g. white, crowded; s. rather narrowed upwards, base bulbous, ring thin, white, volva membranous.

†††† *Pileus brownish or grey.*

[**porphyria**, A. & S. P. brownish or with a violet tinge; g. adnexed; s. slender, ring distant brownish; sp. 8—10.

recutita, Fr. P. 6—9 cm. soon expanded, dry, glabrous, fragments of volva present as a rule, grey or brownish; g. forming lines down the stem; s. narrowed upwards, silky, white, ring distant, white, edge of volva not free; sp. — .

Differs from *A. porphyria* in ring not being tinged brown.

[**cinerea**, Bresad. Small. P. conico-campan. edge striate, livid-grey; g. free, crowded, white, edge fimbriate; s. equal, almost glabrous, partly hollow, colour of p., ring apical, persistent, white; volva free, sheathing, limb lobed, whitish; sp. 10—12 × 8.

** *Volva without a free loose margin, or almost obsolete.*

† *Pileus red, reddish-brown or dingy brown.*

muscaria, Fr. P. 12—18 cm. soon plane, striate, viscid, scarlet or orange with white patches; gills forming lines down the stem, white; s. 10—14 cm. stout, white, ring lax, volva broken up into concentric ridges; sp. 8 × 5. Poisonous.

var. *regalis*, Fr. Large. P. liver-colour.

var. *formosa*, Pers. P. yellow or tawny orange, scales usually absent; s. elongated, yellowish.

var. *umbrina*, Viv. P. umber or livid, disc fuscous; s. hollow. A slender form.

rubescens, Fr. P. 8—12 cm. convex then expanded, dingy red-brown, sprinkled with small pale warts, flesh brownish when broken; g. whitish, forming lines down the stem; s. 7—10 cm. stout, narrowed upwards, squamulose, whitish, ring large, bulbous base concentrically grooved; sp. 8 × 6. Edible.

[**roseola**, Steinh. P. exp. rosy, with rosy mealy warts or naked, flesh rosy; g. crowded, adnexed, white; s. cylindrical, somewhat bulbous, with rufous squamules below ring, volva obsolete; sp. 8—9 × 5—6.

[**Eliae**, Q. P. reddish-lilac, margin sulcate; g. adnexed; s. white, striate, volva obsolete; sp. 11 long.

magnifica, Fr. P. 8—12 cm. soon almost plane, striate, reddish-

brown or bay, with mealy patches, flesh reddish; g. slightly decurrent; s. 10—14 cm. bulbous, nearly equal, scaly and coloured like pileus up to the large ring; sp. 7—8 × 5.

Very close to *Armillaria.*

megalodactyla, Berk. Strong scented. P. 5—8 cm. soon expanded, subgibbous, reddish-grey; g. free, becoming tinged red; s. 8—12 cm. rather bulbous, fibrillose, white, ring large; sp. 5 × 3.

aspera, Fr. P. 6—8 cm. soon plane, dusky olive, livid, or brownish, with small, crowded, angular warts, flesh reddish under the cuticle; g. free; s. 5—8 cm. white, squamulose, bulb rugulose, ring entire: sp. 8 × 6.

var. *Francheti*, Boud. P. pale yellowish-green with golden warts; sp. 10 × 8.

excelsa, Fr. P. 9—12 cm. soon plane, viscid, brownish-grey, warts greyish, soon disappearing; g. free, white; s. 10—12 cm. squamose up to the imperfect ring, and base bulbous, no free edge to volva; sp. 8—9 × 5—6. Poisonous.

pantherina, Fr. P. 7—10 cm. soon plane, viscid, striate, yellow-brown, grey, or whitish, with flat mealy warts; g. free but close to stem, white; s. 10—14 cm. bulbous, whitish, silky, ring distant, extreme edge of volva free, sp. 8 × 5.

[**valida**, Fr. P. dark, with mucronate dark pointed warts; g. running down stem in lines.

spissa, Fr. P. 7—10 cm. soon plane, umber or grey with small grey warts, flesh persistently white; g. running in lines down stem, white; s. 6—8 cm. white, bulbous, slightly rooting, concentrically cracked or squamulose, ring large; sp. 9—10 × 6.

†† *Pileus clear yellow or orange.*

aureola, Kalchb. P. 7—10 cm. soon plane, orange or golden, viscid, naked; g. free; s. 8—12 cm. slender, white, floccosely-squamulose, ring sup. volva marginate; sp. — .

citrina, Gon. & Rab. P. convex, obtuse, 8—12 cm. bright yellow with white patches; g. white, broad, free; s. 10—12 cm. long, stout, white, volva imperfect, ring large; sp. globose, warted, 6—7.

[**amici**, Gill. P. conical, then obtusely umb., striate, slightly viscid, yellowish ochre, disc brownish and covered with large irreg. greyish persistent patches; g. free, ventricose, narrowed at both ends; s. hollow, bulbous, ring small inf., no free edge to volva.

††† *Pileus whitish or greyish.*

nitida, Fr. P. 8—10 cm. hemispherical, whitish, with thick, angular, brownish warts; g. free, crowded; s. 7—9 cm. conical, bulbous, squamulose, white, ring torn; sp. — .

solitaria, Bull. 8—12 cm. soon plane, whitish or tinged rufous, warts angular, small, floccose, easily removed; g. white, broad, narrowed behind and adnexed; s. 7—10 cm. with imbricated scales

below, ring torn, base swollen, rooting, volva marginate; sp. 7—12 × 5—6.

echinocephala, Vitt. White. P. convex then plane, shining, bristling with acute, deciduous pyramidal warts; g. adnexed; s. solid, scaly, base bulbous, rooting, ring distant; sp. 10 diam.

[**Persoonii**, Fr. P. greyish-white, margin even; g. free; s. solid, nearly equal, rooting.

[**arida**, Fr. P. soon plane, grey, margin sulcate; g. adnexed; s. subglabrous, ring distant, volva absent.

strobiliformis, Vitt. P. 10—20 cm. convex then expanded, white, grey, or dingy ochre, with large pyramidal, hard warts; g. free; s. floccosely scaly, bulbous, ring large, torn, volva forming concentric rings; sp. 13—14 × 8—9.

[**cariosa**, Fr. P. soft, even, umber or dark grey, with mealy patches; g. adnate; s. equal throughout; sp. 10 long.

AMANITOPSIS, Roze.

* *Pileus coloured.*

vaginata, Bull. P. 6—10 cm. plane, margin striate, grey, yellow, brown, or white; g. pallid; s. 10—12 cm. narrowed upwards, minutely squamulose, volva large, margin free; sp. 10 × 7—8.

The grey form is edible, the brown form is unpalatable.

strangulata, Fr. P. 8—10 cm. soon plane, livid-bay or grey, with patches of the volva, margin striate: g. free, white; s. 10—14 cm. stout, thinner upwards, pale, volva breaking up and forming 2—4 ring-like ridges on the stem; sp. 9—15 × 7.

Perhaps a vigorous form of *A. vaginata*.

[**urceolata**, Viv. P. thin, hemispher. then slightly depr. umb. viscid, mouse-colour, edge striate; g. adnate, shining white; s. white, even, naked, volva urceolate.

[**friabilis**, Karst. P. exp. thin, rather viscid, greyish, edge sulcate, with broad crowded warts or scales; g. free, white, edge darker, crenulate; s. conical, everywhere floccosely scaly, white or greyish; volva broken up into fragments; sp. glob. 11—12.

Differs from *A. vaginata* in smaller size and imperfect volva.

[**praetoria**, Paul. P. thin, campan. then exp. naked, pectinately sulcate, maroon or brownish; g. annulato-adnexed; s. ventricose, volva large, lax.

lenticularis, Fr. P. 7—10 cm. globose, then convex, even, naked, reddish-tan; g. free, crowded, pallid; s. 10—14 cm. subbulbous, white, ring large; sp. — .

[**Godeyi**, Gillet. P. pale honey-colour, naked, striate; g. free, crowded; s. cylind., volva large, torn; sp. 15—18 long.

[**scobinella**, Trog. P. exp. fuscescent, pellicle broken up into minute, deciduous, darker wart-like squamules, near margin even and silky; g. white; s. conical, base white-squamulose.

[**gemmata**, Paul. Exp. vermilion with angular warts; g. pure white; s. solid, bulbous, whitish, no distinct volva.

adnata, W. G. Sm. P. 6—8 cm. yellowish-buff with patches of the volva; g. adnate, crowded, white; s. 5—9 cm. fibrillose, buff, volva almost obsolete; sp. subglobose, 7—8.

[**insidiosa**, Letell. P. exp. even, glabrous, lurid, greenish-olive, &c.; g. free, white; s. solid, slightly thinner upwards, edge of volva free; sp. — .

Differs from *A. baccata* in even p. and free margin of volva. Fries suggests *A. phalloides* without the ring.

[**Bresadolae**, Sacc. Volva subglobose, not sheathing, edge stellate, tinged brown; p. exp. glabrous, whitish, often with angular umber warts; g. almost free, whitish; s. cylindr. whitish; sp. subg. 5—7.

Superficially resembles *Volvaria parvula*.

** *Pileus white.*

[**leiocephala**, D. C. Shining white. P. convex then plane, silky, edge even; g. free; s. solid, short, firm, volva very large, lax.

[**cygnea**, Schulz. White. P. soon plane; g. attenuato-adnexed; s. clothed with adnate patches above the ample sheathing volva.

[**hyperborea**, Karst. (= *Ag. gemmatus* var. *lapponicus* Karst.). Entirely white. P. thin, convex, exp. covered with angular warts, edge pectinato-sulcate; g. free, shining white; s. bulbous, attenuated upwards, ring absent; sp. glob. 10—14.

Perhaps a var. of *A. vaginatus*.

[**leccina**, Scop. P. exp. obtuse, naked, whitish or yellowish, edge even; g. adnate; s. equal, edge of ring reddish; sp. 10 × 6.

[**baccata**, Fr. P. white, covered with globose warts; g. free; s. equal, volva obtusely marginate; sp. 11 × 7.

[**Boudieri**, Barla. P. globose then exp. or depr., satiny, white, disc tinged, warted, edge even; g. broad, white then tinged yellow, subadnexed; s. long, subcylindrical, white and scurfy at apex, rest yellowish-white, bulb turbinate, volva obliterated, brownish, ring thin, caducous; sp. ellipsoid, elongated.

Differs from *A. baccata* in longer sp.

LEPIOTA, Fr.

A. *Epidermis dry.*

* *Ring free, distinct from the volva.*

procera, Scop. P. soon expanded, umbonate, with brownish scales, 10—25 cm.; g. free, crowded; s. 12—20 cm., base thickened, brownish, transversely cracked, ring free; sp. 12—15 × 8—9. Edible.

rachodes, Vitt. P. 10—18 cm. soon expanded, not umbonate,

with brown scales, flesh brownish when broken ; gills free ; s. white, not cracked, 12—15 cm., ring free : sp. 14 × 5. Edible.

Differs from *L. procera* in the flesh turning brown when cut.

var. *puellaris*, Fr. Small, entirely white, stem floccose.

[**Olivieri**, Barla. P. convex, then exp. or depr., whitish tinged fawn at disc, covered with fawn adpr. fibrillose scales : g. broad, free yellowish-white ; s. whitish, base swollen, ring cottony, caducous ; flesh white, brick-red then brownish when broken.

Allied to *L. rachodes* with which it agrees in size.

prominens, Viv. P. 4—6 cm., umbo very strong, ochraceous, scaly ; g. white ; s. 9—15 cm. slender, base swollen, ring free ; sp. 10 × 8.

permixta, Barla. P. convex, more or less umb. campan. then exp. silky, greyish fawn, centre darker, with adpr. brown scales and becoming deprived of cuticle at edge ; g. pale wax or tinged red ; s. cylindr. dingy white cracked into brown adpr. scales, base swollen, ring brownish ; flesh reddish when broken.

Resembles *L. procera* in size and marking of s. ; *L. rachodes* in flesh becoming red ; and *L. excoriata* in having border deprived of cuticle.

[**molybdites**, Mey. P. globose then campan. broken into crustaceous scales up to middle ; g. remote, white then tinged blue ; s. hollow, blackish-brown, bulbous, ring equal.

An introduced species.

excoriata, Schaeff. P. globose then plane, 5—8 cm. bistre or whitish, silky or squamulose ; g. free ; s. cylindrical, white, 5—8 cm. hollow, ring free ; sp. 14—15 × 8—9.

L. naucina differs in the fragmentary ring.

[**carneifolia**, Gill. P. fleshy, exp. brown or purple brown, glabrous then minutely broken up into fascicles of fibrils ; g. fleshy, crowded, distant from s. ; s. white, fibrillose, thickened at base, ring large, soon free.

densifolia, Gill. P. obtuse, white, soon broken up into adpressed fibrillose scales ; g. closely crowded, thin, white, broadest in front ; s. white, shining, ring free.

gracilenta, Kromb. P. soon expanded, obtusely umbonate, 5—8 cm., brown patches on white ground ; g. free, broad ; s. thickened at base, 12—16 cm., white, ring floccose, disappearing ; sp. 10—11 × 7·5.

Differs from *L. procera* in smaller size and more especially in the fugacious ring. *L. prominens* differs in very large umbo and permanent, free ring.

mastoidea, Fr. Entirely whitish. P. 3—5 cm. with small disappearing warts ; g. free ; s. narrow up from bulbous base, 5—8 cm., ring free ; sp. 7—8 × 5.

The smallest species of the present section. Like *L. gracilenta* in miniature.

** *Ring fixed, homogeneous with the universal veil clothing the stem.*

Friesii. Lasch. P. 8—12 cm. expanded, subumb. with adpressed, tomentose brown scales; g. free, crowded; s. 8—12 cm. subbulbous, scaly, brownish, ring pendulous; sp. 8—9 × 5.

acutesquamosa. Weinm. P. 9—12 cm. convex, obtuse, pale rusty with numerous small pointed warts: g. free, crowded; s. 8—10 cm. narrowed from swollen base, white with rusty scales below, ring large: sp. 7—8 × 4.

Differs from *L. Friesii* in rigid deciduous warts, and broad gills very close to stem.

Badhami. Berk. P. 5—8 cm. expanded, obtuse, squamulose, dark brown, cracked into patches, flesh like that of stem saffron-red when broken; g. free; s. 6—8 cm. bulbous, whitish, ring rather loose; sp. 5 × 3.

emplastra. Cke. and Mass. P. 5—8 cm. convex, glabrous, dark brown, cracked and showing white ground: g. free; s. 7—9 cm. whitish, ring brown outside: sp. 18—20 × 10—12.

Differs from *L. Badhami* in glabrous pileus and larger spores.

meleagris. Sow. P. 2—4 cm. soon plane, minute black scales on a pale ground, flesh becoming red: g. free; s. 3—6 cm., with blackish squamules, stuffed, ring obsolete: sp. 6—7 × 4.

biornata. B. and Br. P. 2—4 cm. convex, white tinged yellow, sprinkled with red scales: g. free; s. 6—9 cm. long, ventricose, white spotted red as is also the ring: sp. 8—9 × 6.

hispida. Lasch. P. 5—7 cm. soon expanded, umb. tawny-brown, tomentose then hispid; g. free, crowded; s. 5—7 cm. floccosely-scaly up to ring, tawny; sp. 6—7 × 4.

lignicola. Karst. P. exp. whitish- or yellowish-rusty, with innate, erect, rusty concentric scales, edge fibrillose: g. crowded, free, edge crenulate; s. curved, rusty, squamulose up to obsolete ring; sp. 4—5 × 3—4.

Superficially resembles *Phol. squarrosa.*

helveola. Bres. P. exp. umb. scaly, reddish brown: g. free, ventricose, white: s. white then fawn, ring white. Poisonous.

Boudieri. Bres. Subcaespitose. P. campan. exp. fawn, with minute darker scales: g. densely crowded, white, edge purple primrose: s. bulbillose, brownish and fibrillose up to ring: sp. 8—9 × 3·5.

lignicolor. Bres. P. conico-campan. subexp. umb. squamulose or fibrillose then almost glabrous, dry, fiery tawny; g. yellowish, edge tawny: s. colour of p., base somewhat rooting with bright tawny fibrils; ring evanescent; sp. 8—10 × 4·5—5.

castanea. Q. P. umb. squamulose, brown; s. and ring white with tawny flecks.

echinella. Q. and Bern. Smell like radishes. P. camp. then convex and umb. bay, bristling with brown pyramidal hairs: g. free,

pallid, tinged red; s. rosy, blackish scales below silky ring, pale above.

Much more slender than *L. hispida.*

[**Morieri**, Gill. P. exp. umb. white, shining, covered with reddish scales, umbo smooth, edge appendiculate: g. white, edge denticulate; s. fibrillose, white, shining, ring ample.

clypeolaria, Bull. 5—8 cm. campan., at first incrusted, umb. tawny, remainder with brownish scales; g. free; s. 6—8 cm., fibrillosely squamulose up to ring, striate above; sp. 6 × 4.

Differs from *L. hispida* in pileus not being tomentose, and paler colour. From *L. cristata* by squamulose stem.

[**brunneoincarnata**, Chod. and Mart. P. subglobose then campan.-conic and umb. with scattered rufescent scales; g. free, white; s. fistulose, equal, colour of p.

[**Forquignoni**, Q. P. white, silky, umbo olive; g. becoming rosy; s. white.

felina, Pers. P. 2—3 cm. camp. expanded, umbo black, rest with concentric black scales on a white ground; g. free; s. 3—5 cm., white, sometimes with black specks; sp. 10 × 5.

metulaespora, B. and Br. P. 2—3 cm. campan. then expanded, margin coarsely striate, whitish-yellow with pale squamules; g. almost free; s. 4—6 cm., pale lemon yellow inside and out; sp. fusiform, 15—16 × 6.

cristata, A. and S. P. 2—4 cm. soon expanded, reddish-brown cuticle at first continuous, then broken up into concentric scales on a whitish ground; g. free; s. 4—6 cm., whitish, fibrillose; sp. 7 × 4.

Differs from *L. clypeolaria* in stem not being squamulose.

[**lilacea**, Bres. P. convex-campan. exp. depr. sometimes umb. purple-lilac then pale and broken up into fuscous squamules; g. free, white; s. fibrillosely scurfy, then almost glabrous, whitish then pinkish lilac, ring inf. persistent blackish violet underneath; sp. 4—5 × 2—2·5.

Differs from *Lepiota cristata* in absence of smell, a feature which also separates it from *L. Bucknallii.*

nigro-marginata, Mass. P. 3—5 cm. soon expanded, buff with small, brown, concentric scales; g. narrow, pallid; s. 5—6 cm. slender, smooth, buff, peronate up to distant ring; sp. 6—7 × 4.

[**Magnusiana**, P. Henn. P. cylindrico-campan. then exp. papillately scaly, white, centre yellowish with age, edge striate; g. free, crowded, lanceolate, white then reddish; s. equal, white then reddish, ring membranaceo-flocculose; sp. 7—11 × 6—8.

erminea, Fr. White. P. 4—7 cm., camp. then expanded, even, glabrous, then silky towards margin; g. free; s. 5—7 cm. fibrillose; sp. 11—12 × 4—5.

micropholis, B. and Br. P. 1—1·5 cm., soon plane, white with minute radiating blackish squamules; g. free; s. 2—2·5 cm., white, ring spreading; sp. 5 × 3.

citriophylla, B. and Br. P. 1·5—2 cm. expanded, umb. lemon

yellow with rufous squamules; g. free, lemon yellow; s. 2—4 cm. squamulose, yellow; sp. 7—8 × 4.

Differs from *L. amianthina* by free gills and white flesh; and from *L. metulaespora* in squamulose stem.

atro-crocea, W. G. Sm. P. 2·3 cm. soon plane, margin often lobed, deep orange, covered with purple-brown fibrils; g. slightly attached, tinged yellow; s. 2—3 cm. orange; sp. — .

*** *Ring superior, fixed, subpersistent; universal veil adnate to the pileus.*

Vittadinii, Fr. P. 6—10 cm. expanded, obtuse, whitish, densely covered with small erect warts; g. free, with a greenish tinge; s. 5—8 cm. with concentric scales up to large ring, whitish or scales tipped red; sp. — .

Differs from *L. nympharum* in solid stem and superior ring.

[**strobiliformis**, Gill. P. convex, edge irreg. covered with strong brown, angular and pyramidal warts; g. closely crowded, narrow; s. cylindrical, stout, whitish, ring membranous.

[**furnacea**, Let. P. white with a black cortex splitting radially; s. white with concentric black scales.

nympharum, Kalchb. P. 6—9 cm. soon expanded, umb. often tinged brown, rest white with overlapping scales; g. free; s. white, hollow, glabrous; sp. globose.

[**colubrina**, Kromb. P. convex, obtuse, tinged fuscous, covered with tomentose imbricated scales; g. white; s. solid, very long, ring distant.

holosericea, Fr. Very soft. P. 6—9 cm. soon plane, obtuse, floccose, whitish or tinge of tan; g. free; s. 5—9 cm. bulbous, whitish, silky, ring large; sp. 7—8 × 5.

naucina, Fr. White. P. 5—10 cm. globose then plane, subumb. glabrous then breaking up into granules; g. free; s. 4—5 cm. tapering to thickened base, fibrillose, ring sup. thin, disappearing; sp. subq. 6—7.

Differs from *L. excoriatia* in the ephemeral ring.

leucothites, Vitt. P. 5—10 cm. subumbonate, white, disc tinged brown, silky then squamulose; g. white then pink; s. 7—12 cm. white, smooth, bulbous, ring large, persistent; sp. hyaline, 9 × 7.

[**rorulenta**, Paniz. Tufted. P. whitish, campan. umb. sulcate, softly granulato-squamulose; g. closely crowded, tinged rosy; s. slender, elongated, base thickened.

cepaestipes, Sow. Yellow. P. 2—5 cm. expanded, umb., scaly, margin plicate; g. free; s. swollen below, 7—12 cm. floccose; sp. 7—8 × 4.

There is a white form.

[**mediofiava**, Boud. P. exp. striate, snow-white, very minutely silky tomentose, centre depr. but the prominent umbo yellowish;

g. free, white; s. fistulose, white, minutely scurfy above median reflexed ring, thickened base often yellowish; sp. 5—6 × 3.

licmophora, B. and Br. Pale yellow. P. 2—3 cm. glabrous, coarsely grooved; g. free; s. 3—5 cm. thicker below, smooth; sp. 9—10 × 5.

Differs from *L. cepaestipes* in glabrous pileus.

[**Brebissoni**, Godey. P. exp. subumb. very thin, striate to middle, brownish, paler towards edge, with brown scales at centre and paler ones at margin; g. distant, edge toothed; s. swollen below, silvery white, pruinose above the ring.

Resembles some sp. of *Coprinus* in transparency and fragility.

[**Schulzeri**, Kalchbr. White. P. convex then exp. umb. even, glabrous; g. free, remote, narrowed behind; s. hollow, narrowed from a subbulbous base, naked, ring median, small.

[**straminella**, Bagl. Entirely straw-colour. P. obtuse, sulcate, with glutinous mealy flecks; g. attached to ring behind, s. floccose, bulbous.

* * * * *Pileus granular or warted. Universal veil of pileus and stem at first continuous, on rupturing forming an inferior ring.*

cinnabarina, A. and S. P. 4—7 cm. obtuse, more or less gibbous, scurfy, persistently brick-red; g. free; s. 3—5 cm. with red scales up to imperfect ring; sp. 6—7 × 5.

var. *Terreyi*, B. and Br. P. subglobose, bright tawny red, rough with warts.

Differs from *L. granulosa* by larger size and persistently red pileus.

carcharias, Pers. Smell strong. P. 2—4 cm. soon plane, subumb. pale flesh colour or yellowish-pink, granular; g. adnexed, white; s. 3—4 cm. granular and coloured like pileus up to ring; sp. — .

var. *Terrei*, B. and Br. P. orange-red, convex; s. nearly equal; g. broad, ventricose.

[**tuberculata**, Brig. P. globoso-exp. cuticle thick, breaking into tubercles, pale tan; g. white; s. subbulbous, fibrillose.

[**venusta**, Bagl. P. convex, edge very thin, crenulate, sulcate, cuticle tawny cracking in the centre; g. adnexed by a tooth; s. solid, thickened upwards, peronate half way up.

[**Pauletii**, Fr. P. exp. bristling with spines, brownish; g. crowded; s. short, white.

granulosa, Batsch. P. 2—3 cm. expanded, obtusely umb. scurfy or granular, rusty or brownish-orange, pale and hoary when dry; s. 3—5 cm. floccosely scaly and coloured like pileus up to ring; sp. — .

Pileus often wrinkled, sometimes pale.

var. *rufescens*, B. and Br. Entirely white, becoming rufous when dry.

L. amianthina differs in adnate gills and yellow flesh of stem. Differs from *L. carcharia* in absence of unpleasant smell.

amianthina, Scop. P. 2—2·5 cm. soon plane and subumb. granular, ochraceous, flesh yellow; g. adnate, yellowish; s. 3—5 cm. squamulose up to ring, flesh yellow; sp. — .

var. *Broadwoodiae*, B. and Br. P. yellow; g. white.

polysticta, Berk. P. 2—3 cm. soon expanded, reddish or yellow-brown broken up into minute scales; g. free, yellowish; s. 2—4 cm. scaly and coloured like pileus up to ring; sp. — .

***** *Cuticle of pileus dry, entire, not granular nor scaly; small, slender.*

parvannulata, Lasch. P. 1—1·5 cm. expanded, subumb. silky, white or tinged yellow; g. free, crowded; s. 3—5 cm. white, fibrillose up to distant small spreading ring; sp. 4 × 2·5.

L. erminea differs in superior, torn ring, glabrous pileus, and radishy smell.

sistrata, Fr. P. 2—4 cm. expanded, whitish, disc often tinged yellow or reddish, pruinose with glistening particles; g. nearly free, crowded; s. 3—5 cm. white, silky, ring fibrillose; sp. — .

L. seminuda differs in mealy stem, and *L. mesomorpha* in glabrous pileus and stem, and entire ring.

seminuda, Lasch. P. 2—3 cm. expanded, umbonate, whitish or tinged fleshcolour, mealy then naked; g. reaching the stem; s. 3—4 cm. whitish, mealy, ring small, superior; sp. 5 × 3.

L. sistrata differs in fibrillose stem and pileus covered with glistening particles.

Bucknallii, B. and Br. P. 1—2 cm. convex, white with violet powder; g. reaching stem; s. 3—5 cm. white with violet powder; sp. 7 × 3.

Smell strong, like gas-tar.

ianthina, Cke. P. 2 cm. expanded, umb. whitish, disc violet, fibrillose; g. free; s. 2—3 cm. wavy, white, ring distant, disappearing; sp. — .

mesomorpha, Bull. P. about 1·5 cm. expanded, subumb. pale brown or yellowish, even, glabrous; g. free; s. 3—4 cm. pale, glabrous, ring superior; sp. — .

[**denudata**, Rab. P. campan.-exp. pale sulphur, very thin, floccosely scurfy then naked; g. ventricose; s. subequal, with a minute very fugacious ring.

[**serena**, Fr. White. P. campan. glabrous; s. slender, subbulbous, ring thin, deciduous.

martialis, Cke. and Mass. P. 2—3. cm. soon plane, deep rose; g. free; s. 3—4 cm. pink up to broad ring; sp. 8 × 4.

B. *Cuticle of pileus viscid, not broken up.*

[**demisannulata**, Secr. P. thin, umb. even; g. free, crowded, white; s. nearly equal, with black fibrils, ring pendulous.

medullata, Fr. White. P. 3—5 cm. soon expanded, glabrous, viscid, veil in fragments at margin; g. free; s. 5—8 cm. dry, obsoletely squamulose below, ring torn; sp. — .

Differs from *L. illinita* in dry stem.

glioderma, Fr. P. 2·5—5 cm. campan. then convex, even, viscid reddish-bay; g. free; s. 5—8 cm. dry, whitish, densely squamulose up to torn ring; sp. — .

delicata, Fr. P. 2—3 cm. convex then plane, even, viscid, granular, rufescent or yellowish; g. free; s. 2—3 cm.; s. dry, whitish floccosely squamulose up to ring; sp. — .

Differs from *L. glioderma* in p. not being campanulate, and stem floccose, not squamose.

illinita, Fr. P. 4—7 cm. white or tinged tan, subumb. glabrous, viscid; g. free; s. 5—7 cm. white, glutinous, ring obsolete; sp. — .

Distinct from all species by glutinous stem.

[**pingua**, Fr. P. white or greyish, viscid, as is also the ring; s. short, dry.

[**inoculata**, Fr. P. exp. obtuse, honey colour, even, viscid; g. crowded, broad; s. abruptly vaginate by the veil.

Georginae, W. G. Sm. White. P. 1·5—2·5 cm. mealy, viscid, changing to crimson when touched, as do also the gills and stem.

[HIATULA, Fr.

[**Wynniae**, B. and Br. P. 2—3 cm. membranaceous, splitting along back of gills, pale; g. rather distant, white; st. 2—3 cm. hollow.

Introduced from Queensland. Phosphorescent.

ARMILLARIA, Fr.

* *Gills sinuate, adnexed.*

bulbigera, A. and S. P. 7—10 cm. brownish, dry, fibrillose near margin; g. emarginate; s. marginately bulbous, pale, ring soon disappearing; sp. 7—10 × 5.

[**phoenicea**, Weinm. P. exp. glabrous, viscid, red; g. free, shining white; s. bulbous, with red fibrils, ring fugacious.

focalis, Fr. P. 7—12 cm. reddish-tawny, silky, obtuse; g. almost free; s. 7—9 cm. equal, fibrillose, ring median; sp. — .

var. *goliath*, Fr. Larger than type, s. rooting, ring almost obsolete.

robusta, A. and S. P. 6—8 cm. dry, rufous-bay, flesh thick; g.

nearly free; s. 3—5 cm. stout, base narrowed, brownish floccose up to ring, white above; sp. — .

Differs from *A. aurantia* in deeply emarginate, broad, whitish gills.

[**squamea**, Barla. Smell like cucumber. P. convex then exp. reddish cinnamon, covered with brown-red scales; edge incurved; g. broad, subdecur. whitish tinged red; s. subventricose with a long tapering base, reddish-brown and scaly up to torn ring, white above; flesh-white, saffron when broken.

Allied to *Armill. robusta* but larger.

[**Caussetta**, Barla. Smell like cucumber. P. exp. depr. dry, silky, squamulose at centre, rather viscid when moist, brick-red, edge incurved then spreading; g. broad, pale or tinged red; s. stout, narrowed at base, fibrillose and reddish up to ring, white above; flesh white, reddish when broken.

[**caligata**, Viv. Smell strong. P. exp. tawny, spotted with adpressed silky scales; g. emarginate; s. solid, with brownish concentric scales below the membranous persistent ring.

[**megalopoda**, Bres. Smell strong. P. convex, exp. or depr. even, glabrous, rather viscid, chestnut; g. crowded, whitish then straw-colour; s. brownish-squamulose up to median ring, white above; sp. glob. 5—6.

[**luteovirens**, A. and S. All except white squamulose stem straw-colour; p. torn into squamules, greenish when mature; ring imperfect.

aurantia, Schaeff. P. 5—8 cm. rusty orange; g. adnexed; s. 6—8 cm. stout, orange and concentrically squamose up to ring, white above; sp. — .

[**dehiscens**, Viv. P. hemispher. then depr. yellowish ochre; g. adnexo-decur., broad; s. cylindric, scaly, viscid, ring very narrow, persistent.

ramentacea, Bull. P. 5—8 cm., obtuse, whitish or yellowish with darker squamules; g. adnexed becoming free; s. 3—5 cm. with brown squamules up to the oblique fugitive ring; sp. — .

[**Ambrosii**, Bres. P. convex, exp. dry, soft, floccosely-downy, snow-white, edge append.; g. white; s. even above ring, floccose below, white; ring inferior, torn, deciduous, sp. 4—5 × 2·5.

[**cingulata**, Fr. P. thin umb. greyish brown, squamosely fibrillose; g. greyish white; s. even, ring median.

[**scruposa**, Paulet. P. exp. glabrous, rough with contorted ridges, subfuscous; g. sinuato-adnate; s. solid, equal, rooting, ring firm, narrow.

[**albosericea**, Brig. White. P. exp. broadly umb., even; g. crowded; s. silky, base tuberous, ring remote, fugacious.

constricta, Fr. All white. P. 3—5 cm. obtuse, dry, glabrous, silky; g. emarginate, adnexed, or almost free; s. 3—6 cm. solid, fibrillose or squamulose, ring apical, narrow; sp.

Much stouter than *A. subcava*.

[**verrucipes**, Fr. Pure white. P. glabrous; s. with brown warts up to annular zone, ring absent; g. sinuato-adnate.

** *Gills narrowed behind, more or less decurrent, with no sinus.*

[**imperialis**, Fr. P. brown with darker scales; g. deeply decurrent; ring double, sp. 12—14 × 5.

[**Laschii**, Fr. P. fawn colour, even, glabrous, thin ring erect; g. crowded, white.

[**tumescens**, Viv. P. exp. even, glabrous, whitish; g. adnate, pale ochre, then tinged red; s. solid, stout, narrowed from the base, whitish, ring fugacious.

[**rhadigosa**, Fr. P. depr. moist, whitish with brownish adpressed scales at disc; g. decur., broad, white; s. short, equal, ring reflexed.

mellea, Vahl. P. 5—12 cm. soon expanded, yellowish-brown, squamulose, margin striate; g. slightly decurrent; s. 8—12 cm. floccose up to spreading ring, base honey-colour; sp. 9 × 5—6.

Mycelium forming long black strands. A destructive parasite.

denigrata, Fr. P. 3—5 cm. obtuse, dark brown, rather viscid, spotted with droplike depressions, and with elevated warts, margin even; g. rather decurrent; s. 4—5 cm. solid tinged brown, ring disappearing; sp. — .

[**morio**, Fr. P. campan.-exp. irreg. cracked, viscid, greyish brown then rufescent; g. adnate; s. solid, fibrous, ring narrow.

[**Viviani**, Fr. P. convex, glabrous, dark bay then whitish; g. adnate, pale fawn; s. elongated, white, ring narrow.

[**griseofusca**, D. C. P. convex, even, glabrous, brownish grey, discoid; g. decur.; s. equal, glabrous, ring persistent.

[**pleurotoides**, Fr. P. subexcentric, ring toothed; s. whitish with a flesh-coloured tint.

citri, Inz. P. 2—3 cm. soon plane, subumb., even, yellow; g. adnate; s. 5—7 cm., slender, ring spreading; sp. subgl. 5 × 4.

subcava, Schum. P. 3—4 cm. white, umbo brownish, striate to middle; g. decurrent; s. equal, hollow upwards, 4—5 cm., even up to torn ring, punctate above, white; sp. — .

Differs from *A. constricta* by longer thinner stem, and striate pileus.

haematites, B. and Br. P. 2—3 cm. obtuse, liver-coloured; g. adnato-decurrent; s. 3—5 cm. coloured like pileus up to ring, whitish above; sp. 8 × 5.

*** *Gills adnate without a sinus.*

[**laqueata**, Fr. White. P. 3—4 cm. hemispherical, obtuse, viscid when moist, smooth; g. adnate; s. 5—7 cm. solid, squamulose or fibrillose below the ring, base tinged brown; sp. — .

mucida, Schrad. P. 4—8 cm. soon expanded, white or grey, rugulose, glutinous; g. striately decurrent; s. 5—12 cm. base thickened, ring apical, striate, tumid; sp. 15—16 × 8—9.

Jasonis, Cke. and Mass. P. 3—5 cm., camp. then expanded, umb., yellow, disc tawny, papillate; g. adnate; s. 5—7 cm. coloured like pileus, squamulose up to torn ring; sp. 8 × 5 μ.

[**fracida**, Fr. Smell rancid. P. convex, obtuse, even, spotted, brownish-olive; g. becoming free, white; s. base narrowed, squamulose, smooth above the spreading torn ring.

[**pinetorum**, Gill. P. exp. umb. granular, pale or yellowish white, covered with reddish squamules; g. sinuato-decur., pallid; s. colour of p., squamulose up to spreading ring which is also squamulose outside.

TRICHOLOMA, Fr.

A. *Pileus viscid, scaly, or villose.*

I. Limacina. *Pileus viscid when moist, innately fibrillose or squamulose, but not broken up.*

* *Gills not changing colour, not becoming rufescent.*

equestre, Linn. P. 7—12 cm. exp. obtuse, viscid, squamulose, yellow or tinged green; g. sulphur yellow; s. 4—7 cm. yellow; sp. 7—8 × 5.

coryphaeum, Fr. P. 8—15 cm. soon exp. viscid, yellowish with darker squamules; g. white, edge yellow; s. solid, obclavate; sp. subglobose, 5—6.

T. equestre differs in having gills entirely yellow, and *T. sejunctum* in its pure white gills.

sejunctum, Sow. P. 7—10 cm. expanded, yellow with brown streaks, viscid; g. pure white; s. 8—12 cm. white, apex squamulose; sp. subgl. 5—6.

portentosum, Fr. P. 7—12 cm. viscid, sooty often with purple tinge, viscid, streaked with dark lines; g. white, very broad; s. 7—8 cm. whitish, glabrous; sp. subgl. 4—5 × 4.

fucatum, Fr. P. 5—7 cm. soon plane, viscid, dingy yellow with darker stains; g. white or tinged yellow; s. 5—7 cm. fibro-squamulose, whitish; sp. — .

quinquepartitum, Fr. P. 7—10 cm. viscid, even, glabrous, pale yellowish; g. broad, white; s. 7—10 cm. white, striate, glabrous; sp. 5—6 × 3—4.

Differs from *T. portentosum* in p. not being virgate, and from *T. fucatum* in glabrous striate stem.

resplendens, Fr. White. P. 5—9 cm. expanded, viscid, even,

glabrous, shining when dry, margin straight; g. very emarginate; s. 5—7 cm., solid, apex flocculose; sp. 7—8 × 4.

Differs from *T. spermaticum* in solid stem.

spermaticum, Fr. White. P. 5—8 cm. expanded, viscid, wavy, glabrous, shining when dry, margin at first incurved; g. margin eroded; s. 5—9 cm. twisted; sp. — .

** *Gills becoming discoloured, usually spotted with brownish-red.*

colossus, Fr. P. 12—20 cm. expanded, margin at first incurved, dull red or reddish umber, glabrous then squamulose, flesh very thick, reddish when broken; g. broad, reddish; s. 7—10 cm. stout, apex constricted, solid, reddish; sp. 6 × 4.

[**aurata**, Fr. P. exp. obtuse, even, yellow then rufescent; g. yellow; s. solid, fibrillose, yellow.

nictitans, Fr. P. 3—5 cm. exp. obtuse, even, glabrous, viscid, yellowish; g. yellow; s. 7—8 cm. solid, yellow, apex squamulose; sp. 7—8 × 5.

Differs from *T. flavobrunneum* in squamulose apex of stem.

fulvellum, Fr. P. 2—5 cm. exp. viscid, even, yellowish tan disc darker and wrinkled; g. white then tinged rufescent; s. 4—6 cm. fibrillose, apex naked, white tinged rufous; sp. subgl. 4—5.

flavobrunneum, Fr. P. 7—14 cm. soon exp. viscid, bay, virgate-squamulose, flesh yellow then tinged rufous; g. pale yellow; s. 7—12 cm. ventricose, hollow, brownish, flesh yellow, viscid at first; sp. 6—7 × 4—5.

albobrunneum, Fr. P. 6—8 cm. obtuse, viscid, brown, streaked with fibrils, disc papillose; g. broad, whitish; s. 3—5 cm. equal, rufescent, solid, flesh white; sp. 4—6 × 3—5.

irregulare, Karst. P. convex then exp. very irreg. rather viscid, fibrillosely virgate, pale, tinged tawny rufous; g. white then reddish or spotted; s. equal, curved, white, apex flocculose. Smell strong.

Differs from *T. albobrunneum* in paler, irreg. p. and smell.

[**Salero**, Barla. Smell strong, mealy. P. exp. obtuse, even, viscid when moist, satiny when dry, chestnut; g. white then reddish; s. cylindrical, white and squamulose at apex, fibrillose and reddish at middle; flesh white, reddish when broken, very bitter.

ustale, Fr. P. 4—7 cm. exp. umb. then nearly plane, even, glabrous, disc rugulose bay; g. white tinged brown later, decur. tooth; s. 5—8 cm. equal, somewhat rooting, apex naked, whitish; sp. 7—8 × 5.

pessundatum, Fr. P. 7—9 cm. obtuse, wavy, glabrous, viscid, bay or rufescent, granular or spotted; g. almost free, white then tinged rufous; s. 5—8 cm. white, floccosely squamulose; sp. 5 × 2·5.

stans, Fr. P. 7—10 cm. exp. viscid, rufescent, even, flesh red

under cuticle; g. crowded, spotted reddish; s. 5—8 cm. whitish, squamulose; sp. 5—6 × 4.

russula, Schaeff. P. 6—8 cm. exp. viscid, rosy red, granulated; g. subdecurrent; s. 3—5 cm. rosy, apex squamulose; sp. 10 × 5.

frumentaceum, Bull. P. 5—10 cm. exp. viscid, glabrous, pallid, streaked or stained reddish; g. crowded; s. 5—8 cm. solid, fibrillose, white, variegated red; sp. 5 × 3·5.

II. Genuina. *Pellicle not viscid, torn into scales, or fibrillose.*

* *Gills not changing colour, neither spotted with rufous nor black.*

rutilans, Schaeff. P. 6—14 cm. exp. coated with purplish down, flesh yellow; g. yellow, edge downy, orange; s. 5—8 cm. yellow with purple squamules; sp. subgl. 5—6.

variegatum, Scop. P. 5—10 cm. exp. yellow with purplish squamules; g. pale yellow, edge entire not darker coloured; s. 5—8 cm. pale yellow, more or less variegated with red; sp. 5—7 × 4—5.

Differs from *T. rutilans* in edge of gills.

[**albofimbriatum**, Trog. P. exp. obtusely umb. fibrillose, scaly towards edge, brownish; g. sinuate, closely crowded, yellow then rufescent, edge white-fimbriate; s. yellow-rufescent.

[**aestuans**, Fr. P. conico-exp. umb. with fugacious longitudinal fibrils, yellow-rufescent; g. very broad, yellow then pallid; s. equal, glabrous, striate.

centurio, Kalchb. P. campan. strongly umb. edge incurved then spreading and wavy, fuscous then livid; g. deeply emarginate, almost free, pallid; s. ventricose, stout, white.

luridum, Fr. P. 3—5 cm. exp. rather wavy, dry, glabrous, then torn into livid squamules, yellowish-grey; g. broad, crowded; s. 5—8 cm. glabrous, white; sp. 5—6 × 3—4.

Differs from *T. saponaceum* in persistently white flesh.

guttatum, Schaeff. P. 5—12 cm. exp. cinnamon or with a pink tinge, dry, granulose or floccose, margin remotely sulcate; g. with decurrent line down stem, crowded; s. 5—8 cm., white, mealy; sp. —.

Differs from *T. tigrinum* in white gills and sulcate margin of pileus.

[**goniospermum**, Bres. P. fleshy, compact, hemispher. tinged fuscous or livid yellowish; g. much crowded, smoky-grey or lilac then yellowish; s. solid, whitish or lilac above, base brownish; sp. more or less cruciform rarely subtriangular, 8—10 × 5—7.

[**psammopodium**, Kalchb. P. obtuse or subumb. dry, with scattered fibrillose squamules, dusky cinnamon then tawny; g. yellowish; s. ventricose, colour of p. with darker squamules downwards.

[**impolitum**, Lasch. P. exp. flocculose, then broken into scales and subdepr.; g. crowded; s. solid, fibrillose, floccosely scaly above.

columbetta, Fr. White, here and there spotted with red. P. 5—10 cm. dry, glabrous then fibrillose; g. subserrulate; s. 6—10 cm. stout, solid, striate; sp. 6—7 × 4—5.

scalpturatum, Fr. P. 5—8 cm. conical then exp. dingy, tomentose then broken up into rufous or umber scales; g. white then yellowish; s. 5—9 cm. whitish, fibrillose; sp. 6—7 × 3·5.

var. *argyraceum*, Bull. Slender; p. silvery grey.

var. *chrysites*, Jungh. Pale, p. and g. becoming yellowish.

var. *virescens*, Wharton. Yellow-green when bruised.

These are forms rather than varieties.

** *Gills rufous or greyish; edge usually spotted with rufous or black.*

imbricatum, Fr. P. 8—12 cm. exp. obtuse, dry, rufous umber, innately squamulose, margin involute and downy at first; g. sinuate, crowded; s. 8—12 cm. solid, paler than p. apex white-pulverulent; sp. 6 × 4.

vaccinum, Fr. P. 7—12 cm. exp. umb. dry, rufous, squamulose, margin at first involute and downy; g. almost adnate; s. 7—10 cm. hollow, fibrillose, brownish; sp. subg. 6—7.

Differs from *T. imbricatum* in hollow stem and reddish flesh.

[**polyphyllum**, D. C. P. obtuse, irreg. with adpressed fibrillose scales; rufous umber; g. white then tinged red; s. solid, white, squamulose, apex striate.

immundum, Berk. P. 5—9 cm. greyish, silky-squamulose, stained, margin incurved; g. greyish pink, separating readily from flesh; s. 4—6 cm. greyish, fibrillose; sp. subg. 4—5. Every part blackish when bruised.

inodermeum, Fr. P. 2—5 cm. acute then umb. rufous brown, fibrillose and with radiating scales; g. free, ventricose, white, spotted red when bruised; s. 7—8 cm. fibrous, white with rufous tinge, apex powdered white; s. 7—8 × 4.

[**furvum**, Fr. P. campan.-exp. wavy, dry, brownish, fibrillosely striate; g. entire, white then greyish; s. solid, fibrillose.

[**unguentatum**, Fr. P. exp. umb. grey, viscid, floccosely-squamulose; g. very broad, crowded, whitish; s. white, solid, fibrillose.

[**gausapatum**, Fr. P. bullate, obtuse, wavy, covered with dense superficial fibrils, edge at first incurved and with white wool; g. adnate, grey; s. solid, white, fibrillose.

terreum, Schaeff. P. 5—8 cm. exp. umb. bluish grey with minute squamules; g. greyish, sinuate; s. whitish, fibrillose; sp. subgl. 5—6.

var. *orirubens*, Q. Edge of g. reddish.

var. *atrosquamosum*, Chev. P. grey with small black scales, g. whitish.

var. *argyraceum*, Bull. Entirely pure white, or p. greyish.

var. *chrysites*, Jungh. P. tinged yellowish or greenish.

[**squarrulosum**, Bres. P. convex then exp. umb. dry, fuscous then lurid tan, centre black, with black squamules, edge fibrillose, exceeding gills; g. broad, crowded, whitish grey, reddish when bruised; s. colour of p. punctato-squamulose; sp. 7—9 × 4—5.

[**triste**, Fr. P. conic then exp. umb. fuscous, fibrillosely scaly; g. white then greyish; s. fistulose, slender, floccose.

III. Rigida. *Pellicle rigid, punctato-granulate, or broken up into glabrous fragments when dry.*

* *Gills white or pallid, not rufous or grey spotted.*

macrorhizum, Lasch. Smell strong. P. 10—20 cm. exp. ochraceous, darker and cracked when old; g. almost free; s. 5—10 cm. stout, ochraceous, rooting, solid, ventricose; sp. subgl. 5—6.

[**compactum**, Fr. P. soon plane, even, dry, glabrous, livid grey, compact; g. yellow; s. solid, white.

saponaceum, Fr. Smell strong. P. exp. obtuse, dry, livid, tinged olive, glabrous then often squamulose or punctate, flesh reddish; g. pallid with greenish tinge; s. 5—10 cm. whitish, somewhat rooting; sp. 5 × 4.

var. *atrovirens*, P. thin, wavy, obscure green with crowded black squamules.

[**Boudieri**, Barla. P. exp. even, dry, satiny maroon or vinous with coppery tint, then sooty brown with deeper granules at centre; g. tinged green then ochre; s. subcylindrical, rather unequal, fibrillose, whitish tinged red, then brownish-fawn; flesh white then reddish.

Differs from *Trich. saponaceum* in the copper coloured p.

[**miculatum**, Fr. P. exp. obtuse, glabrous, granulated then cracked, umber; g. subadnate; s. solid, fibrillosely floccose.

cartilagineum, Bull. P. 5—9 cm. soon exp. and wavy, margin persistently incurved, blackish, then broken up into small black spots; g. crowded then greyish; s. 3—5 cm. glabrous, pure white; sp. — .

tenuiceps, Cke. and Mass. P. 5—8 cm., flesh very thin, obtuse, dry, granular, dusky brown; g. narrowed in front, white; st. 5—8 cm. ochraceous white, everywhere granular, base abrupt with cord-like mycelium; sp. subgl. 6—7.

loricatum, Fr. Smell strong. P. 2—5 cm. tough, convex, wavy, rather viscid, brown, cuticle thick, tough, separable; g. almost free, pallid; s. 5—7 cm. tough, often twisted, brownish red; sp. — .

atrocinereum, Pers. P. 3—5 cm. soon plane, grey, prominent

disc darker, often cracked; g. crowded, hyaline; s. 5—7 cm. cylindrical, stuffed, glabrous, apex naked, whitish; sp. — .

cuneifolium, Fr. Smell strong. P. 1·5—2·5 cm. soon plane, dry, brown, glabrous then squamulose; g. crowded, white, broad and obliquely truncate in front; s. 2·5 cm. hollow, narrowed at base, pallid, apex mealy; sp. subgl. 3—5.

Differs from *T. atrocinereum* in hollow stem.

* * *Gills discoloured, with rufous or grey, spotted.*

crassifolium, Berk. Smell strong. P. 5—10 cm. exp. wavy, flesh thin, umb. ochraceous, disc darker; g. nearly free, becoming yellowish, thick; s. solid, paler than p., pruinose; sp. — .

[**geminum**, Fr. Stout, compact. P. obtuse, rufous cinnamon, velvety then rimose; g. crowded; s. solid, floccose.

sudum, Fr. P. 6—9 cm. soon plane, dry, greyish brown, glabrous, disc often squamulose; g. deeply emarginate, white then tinged rufous; s. 6—8 cm. solid, pallid, fibrillosely-squamulose, striate; sp. 6—7 × 3·5.

tumidum, P. Smell slight. P. 6—8 cm. bullate, deformed then exp. and wavy, livid grey, spotted, somewhat shining, cracking; g. white then grey with rufous tinge; s. 7—9 cm. stout, tumid, striate, white, rooting; sp. 6 × 4.

var. *Keithii*, Phil. and Plowr. P. rufous grey; s. dingy white, tinged red near base.

murinaceum, Bull. Smell strong. P. 5—10 cm. exp. sometimes subumb. grey, silky, cracking into squamules; g. deeply sinuate, broad, grey; s. grey with darker squamules; sp. — .

[**bisontinum**, Roll. P. pulvinate, cuticle thick, brown with greenish tinge, virgate with minute adpr. fibrils; g. thick, grey, with flat, transverse, more or less branched veins; s. solid, narrowed below, fibrillosely striate, with minute dark granules above, pale; 10—12 × 6.

hordum, F. P. exp. subumb. grey, dry, glabrous then breaking up into squarrose scales; g. rather distant, becoming greyish; s. 6—8 cm. whitish, glabrous; sp.

virgatum, Fr. P. rigid, 5—9 cm. exp. umb. very dry, greyish, virgate with radiating blackish lines; umb. often broken up into squamules; g. broadly emarginate, becoming greyish, crowded; s. 7—9 cm. striate, glabrous, whitish; sp 6—8 × 5—6.

The only dry sp. with a virgate pileus.

[**dissultans**, Karst. P. fragile, thin, convexo-plane, acutely umb. very dry, hoary with dense subreticulately interwoven superficial fibrils, grey; g. hoary; s. hollow, equal, white, loosely fibrillose, apex pruinose; sp. 5—6 × 4.

[**elytroides**, Scop. P. exp. obt. scabrid, disc floccosely scurfy, grey; g. broad, grey; s. with dense fibrils directed upwards.

[**opicum**, Fr. P. umb. even, soon squamulose, greyish as is also the flesh; g. arcuato-adfixed, hoary; s. stuffed, equal, almost glabrous.

IV. SERICELLA. *Pileus at first silky, soon glabrous, quite dry.*

** Gills broad, thickish, rather distant.*

sulphureum, Fr. Strong smelling. Entirely sulphur yellow or p. tinged rufous, P. 3—8 cm. subumb. silky, even; g. distant; s. 5—10 cm. striate, same colour inside; sp. 9—10 × 5.

bufonium, Pers. P. 3—7 cm. soon plane, subumb. silky, soon glabrous, rugulose, opaque, purplish brown, umber, or tan; g. yellowish-tan then pallid; s. 5—7 cm. flocculose, coloured like p.; sp. subgl. 4—5.

lascivum, Fr. Smell strong. P. 4—5 cm. exp. and subdepressed, even, silky then glabrous, tan colour then pallid; g. arcuately adnexed, crowded, white; s. 4—6 cm. solid, rigid, tomentose, whitish, apex mealy, rooting; sp. 8—10 × 4—5.

var. *robustum*, Cke. Robust. P. whitish, silky; smell weak or none.

interveniens, Karst. P. convexo-plane, depr. silky then glabrous, rugulose near edge, tan then pale; g. arcuato-adnex. crowded, pallid; s. solid, equal, rooting, fibrillose, pallid; sp. 6—7 × 2—2·5.

inamoenum, Fr. Foetid. White. P. 2—4 cm. exp. umb. silky then glabrous, even; g. arcuato-adnexed, crowded; s. 7—10 cm. equal, solid, rooting; sp. 9—10 × 6—7.

The only white, foetid *Tricholoma*.

** * Gills thin, crowded, narrow.*

cerinum, Pers. P. 2—4 cm. exp. obtuse or depressed, even, dry, almost glabrous, wax-yellow or brown; g. crowded, yellow; s. 2—3 cm. stuffed, fibrillosely striate, yellowish, base darker; sp. — .

[**chrysenterum**, Bull. Entirely yellowish outside and inside. P. fleshy, convexo-plane, obsoletely umb. silky then almost glabrous; g. free, crowded, narrow; s. solid, base with white wool.

[**stiparophyllum**, Fr. Smell strong. P. exp. silky then glabrous, yellowish white; g. crowded, white; s. hollow, white, glabrous, apex mealy.

[**cerinum**, Pers. P. exp. depr. almost glabrous, waxy yellow or fuscescent; g. crowded, yellow; s. stuffed, fibrillosely striate, base glabrous, often brownish.

[**onychinum**, Fr. P. exp. subumb. dingy purple or brown, margin silky; g. yellow, crowded; s. pallid, apex reddish.

ionides, Bull. P. 2—4 cm. soon plane, umb. even, dingy violet then pale; g. crowded, white, edge irreg.; s. 3—4 cm. elastic, fibrillose, coloured like p.; sp. 6—7 × 3·5.

Differs from *T. humile* and *T. sordidum* in white gills.

var. *parvum*, Lasch. P. reddish brown.

var. *persicolor*, Fr. P. convexo-plane, peach-colour, then pale; g. sinuate, white; s. paler than p.

carneum, Bull. P. 1·5—2·5 cm. fragile, exp. obtuse, glabrous, peristently reddish flesh colour; gills pure white; s. 2—2·5 cm. coloured like pileus, not fading; sp. 3 × 2.

[**carneolum**, Fr. Small. P. plano-depr. obtuse, even, flesh-red then pale; g. closely crowded, very broad behind, shining white.

caelatum, Fr. P. 2—2·5 cm. persistently umbilicate glabrous, brown then greyish, becoming cracked; g. crowded; s. 2·5 cm. glabrous, brown; sp. 8 × 5.

B. *Pileus even, glabrous, neither villose, scaly nor viscid.*

V. Guttata. *Pileus fleshy, soft, fragile, with drop-like markings; stem solid.*

* *Gills not discoloured.*

gambosum, Fr. P. 6—12 cm. flesh thick, exp. and wavy, glabrous, spotted, pallid tan, margin incurved and downy at first; g. crowded, ventricose; s. 5—7 cm. stout, flocculose at apex, white; sp. 13—14 × 8—9. Edible.

[**Georgii**, Clus. P. exp. rather wavy, dry, flocculosely soft, ochraceous, edge even, naked, ochraceous; g. linear, transversely striate, whitish; s. solid, stout, fibrillose. Edible.

albellum, Fr. P. 5—7 cm. conical then exp. gibbous, whitish, pallid, greyish when dry, mottled with spots, margin naked; g. crowded, broadest in front; s. 3—5 cm. fibrillosely striate, solid, white; sp. 6—7 × 4.

boreale, Fr. P. 4—6 cm. irreg. subumb. glabrous, rivulose when dry, margin even, naked, flesh-colour becoming pale; g. crowded; s. 5—8 cm. solid, elastic, base narrowed, whitish; sp. subg. 4—5.

* * *Gills discoloured, rufescent or smoky.*

amethystinum, Scop. P. 3—5 cm. exp. wavy, glabrous, livid and spotted with bluish patches; g. crowded, white then rufescent; s. 3—5 cm. solid, narrowed at base, paler than p.; sp. — .

[**graveolens**, Fr. P. compact, obt. glabrous, margin even, rivulose when dry, dusky brown; g. white then fuliginous; s. solid, firm, fibrillose.

tigrinum, Schaeff. P. 3—5 cm. exp. often wavy, glabrous, margin involute, pale brown or greyish with brown spots; g. crowded, narrow, white then greyish; s. 2—3 cm. and nearly as thick, solid, white, pruinose; sp. subgl. 8.

Differs from *T. guttatum* in glabrous pileus with an even margin.

[**leucophaeatum**, Karst. (= *Coll. leucophaeatus*, Fr.). P. convexo-plane, broadly and obtusely umb. pallid grey; with thin hoary tomentum; g. crowded, whitish then dingy, broadest behind; s. equal, often curved, pallid, base strigose; sp. — .

pes-caprae, Fr. P. 2—5 cm. conical then exp. umb. unequal, greyish brown, glabrous; g. broad, greyish white; s. 6—7 cm. naked, white; sp. 8 × 5.

var. *multiforme*, Schaeff. P. irreg., caespitose, smaller than type.

VI. SPONGIOSA. *Pileus compact then spongy, obtuse, even, glabrous, not hygrophanous.*

* *Gills not discoloured.*

Schumacheri, Fr. P. 6—7 cm. exp. obtuse, livid grey, even, moist, edge beyond gills incurved; g. narrow, crowded, pure white; s. 6—8 cm. white, solid, fibrillosely-striate; sp. — .

amicus, Fr. P. fuscous; g. distant, white; s. bulbous, solid, white.

patulum, Fr. P. 5—8 cm. plane, obtuse, wavy, even, glabrous, pale grey or pallid; g. sides veined, pallid; s. elastic, equal, glabrous, 5—8 cm.; sp. 7—8 × 4.

circumtectum, Cke. and Mass. P. 5—8 cm. dry, obt. or subumb. wavy, margin incurved, downy, greenish olive then tan; g. white; s. 3—4 cm. whitish, striate, base pointed; sp. subgl. 4—5.

maluvium, Fr. P. campan.-convex, obtuse, glabrous, greenish; g. rounded, crowded, pallid; s. solid, firm, elastic.

conglobatum, Vit. Densely clustered. P. unequal, even, edge thin, inflexed, somewhat pruinose, blackish fuscous; g. free; s. stems solid, ventricose, subtomentose, springing densely from a common tuber.

arcuatum, Bull. P. 5—8 cm. brownish white then tan, exp. margin incurved, glabrous, flesh-coloured; g. arcuate, crowded, white; s. 4—6 cm. solid, fibrilloso-squamulose, pale brown, base darker, bulbous; sp. — .

Differs from *T. panaeolum* in having white gills, and from *T. melaleucum* in having coloured flesh.

var. *cognatum*, Bull. Larger. Gilvous outside and inside or dingy tan; p. obtuse, discoid; g. tan.

oreinum, Fr. P. 2—3 cm. soon plane, obtuse, glabrous, fuscous, even; g. rounded, free, white; s. solid, short, 2—3 cm. whitish, apex white squamulose; sp. — .

Separated from *T. humile* by the gills projecting beyond the margin of pileus.

album, Schaeff. Entirely white, taste acrid. P. 6—9 cm. convex then depr. even, glabrous, dry, disc sometimes tinged yellow; g. rather crowded; s. 6—8 cm. narrowed upwards, solid, elastic; sp. 5—6 × 3.

var. *caesariatum*, Fr. P. white or yellowish, exp. fibrillosely silky, then glabrous; s. slender, fragile, apex rather mealy; g. nearly free.

[**lentum**, Post. Entirely white not becoming spotted. P. convex, unpolished and at first rather velvety, disc tinged pallid when old; g. sinuate or subdecurr.; s. base narrowed, apex usually longitudinally costate; sp. 7·5—10 × 4·5—7.

[**raphanicum**, Karst. Smell very strong, like radishes. P. convex, often gibbous, white, disc tinged tan; g. white; s. rooting, flocculose above; sp. glob. 3—4.

leucocephalum, Fr. Pure white, smell mealy. P. 3—4 cm. plane, even, moist, glabrous after silky veil has gone; g. crowded; s. 5—6 cm. hollow, smooth, cartilaginous, tough, rooting; sp. 9—10 × 7—8.

T. album differs in having no smell, and *T. inamoenum* in strong disagreeable smell and very broad gills.

* * *Gills discoloured.*

acerbum, Bull. P. 7—10 cm. expanded, margin at first involute, sulcate and rugulose, viscid, whitish then tinged rufous; g. narrow rufescent; s. 5—8 cm. pale, apex squamulose; sp. subg. 5—6.

militare, Lasch. Smell and taste unpleasant. P. 8—15 cm. convex, gibbous, margin even, viscid, cinnamon; g. white, torn, then spotted; s. 7—11 cm. solid, squamulose, pallid, base subbulbous; sp. — .

Differs from *T. civile* in strong smell and spotted gills.

civile, Fr. P. 6—8 cm. soft, soon exp. glabrous, moist, pale yellow brown, cuticle separable; g. crowded, white then yellowish; s. 5—8 cm. solid, soft, fragile, fibrillosely squamulose, whitish; sp. — .

duracinum, Cke. P. 5—8 cm. convex, gibbous, even, dry, shining, grey with olive tinge; g. arcuate, grey; s. 4—6 cm. reticulately squamulose above, striate below, greyish white; sp. — .

[**irinum**, Fr. P. spongy-compact, convex then plane, moist, obsoletely innately virgate, flesh-colour then pale, edge even, pruinose; crowded, narrow, quite entire, greyish then lurid; s. solid, subbulbous, reticulately fibrillose.

personatum, Fr. P. 6—10 cm. regular, obtuse, even, glabrous, margin invol. and downy, tan or with a lilac tinge; g. rounded-free, crowded, broad, violet then dingy; s. 5—7 cm. solid, stout, dingy purple, villose; sp. 8—10 × 5—6.

Flesh of stem white. In *T. nudum* tinted violet.

saevum, Gillet. P. 6—9 cm. convex then plane, buff, margin naked, flesh thick; g. crowded, narrow, pallid; s. 2—3 cm. long, 2 cm. or more thick, purple, slightly squamulose; sp. 7 × 5.

Differs from *T. personatum* in the short, stout, squamulose stem, and absence of purple tint on gills.

[**glaucocanum**, Bres. P. rather soft, convex, exp. glabrous, edge involute subflocculosely pruinose, glaucous-grey; g. closely crowded,

greyish violet, easily separating; s. solid, fibrillosely striate, apex subsquamulose, base bulbous, colour of p.; sp. 6 × 3.

nudum, Bull. Whole fungus violet at first. P. 5—8 cm. soon exp. often wavy, flesh thin; g. narrow, becoming rufescent; s. 5—8 cm. equal, elastic, rather mealy; sp. 7 × 3·5.

Flesh of stem tinted violet. In *T. personatum* white.

[**violaceonitens**, Bagl. P. convex, umb. dusky violet, shining, edge wavy, rugulosely sulcate; g. crowded, dingy white; s. solid, stout, base narrowed, colour of p.

cinerascens, Bull. P. 5—8 cm. convex, even, glabrous, white then greyish; g. dingy, easily separating from flesh; s. 4—6 cm. solid, equal, glabrous; sp. — .

panaeolum, Fr. P. 6—8 cm. convex then almost plane, dusky grey with a grey bloom, often spotted; g. grey with rufous tinge; s. 3—5 cm. solid, fibrous-striate, greyish; sp. subgl. 5—6.

var. *calceolum*, Sterb. P. spongy, deformed, thin, soft, exp. edge incurved, sooty-grey or reddish-grey; g. smoky; s. excentric, fusiform, very short.

cnista, Fr. P. 5—8 cm. exp. moist, glabrous, pale tan or whitish, margin incurved, naked, even; g. white, veined, reddish when bruised; s. 3—5 cm. solid, glabrous, white; sp. 9—10 × 4.

Differs from *T. panaeolum* in p. not becoming grey.

fallax, Peck. P. 2—3 cm. soon plane, yellow, disc darker, even; g. becoming yellowish; s. 2·5 cm. yellow, hollow; sp. 4—5 × 3.

VII. Hygrophana. *Pileus thin, subumbonate, hygrophanous.*

* *Gills whitish, not spotted.*

melaleucum, Pers. P. 3—7 cm. convex then plane, umb. blackish then paler, glabrous; g. emarginate adnexed, white; s. 5—8 cm. equal, elastic, whitish with dark fibrils; sp. 10 × 4—5.

Coll. stridula much resembles this sp. but has a brownish stem. *T. arcuatum* has flesh tinged brown. *T. oreinum* has apex of stem squamulose.

var. *adstringens*, Pers. P. exp. pitch black and rather shining when dry; g. tinged pink; s. naked.

var. *polioleucum*, Fr. P. obtusely umb. livid then grey; s. apex white-pruinose.

var. *porphyroleucum*, Bull. P. fleshy, umbo disappearing, sooty or fuscous-rufescent; s. solid, subfibrillose; g. white.

[**microcephalum**, Karst. P. 2—3 cm. convexo-plane, livid-sooty then pale; g. much crowded, soft, white; s. tall, 9—12 cm. splitting easily into fibres, pallid, glabrous; sp. subg. 5—6 × 5.

[**turritum**, Fr. P. conico-exp. umb. moist, obscure purple, somewhat spotted; g. soon free, white; s. stuffed then hollow, white with dusky fibrils.

grammopodium, Bull. P. 7—12 cm. camp. conv. then depr. umb. glabrous, ruddy then pallid; g. arcuato-adnate, crowded; s. 7—10 cm. stuffed, coarsely striate, glabrous, pallid; sp. 7—8 × 4.

[**strictipes**, Karst. P. soft, gibbous, plane or depr. white or yellowish-white, centre often tinged; g. closely crowded, shining white, entire; s. solid, equal, cylindrical, base usually thickened, straight, white, glabrous; sp. 6—9 × 4—5.

brevipes, Bull. P. 3—6 cm. brown then pale, glabrous, convex then plane; g. crowded, tinged fuscous then pale; s. 2—2·5 cm. solid, rigid, brown outside and inside; sp. 7 × 4.

humile, Pers. P. 5—8 cm. umb. then convex or depressed, even, glabrous; g. crowded, ventricose; s. 3—5, greyish white, villosely pulverulent, stuffed; sp. 7—8 × 5.

Differs from *T. brevipes* in pale stem and tufted habit.

exsiccum, Fr. P. 3—5 cm. exp. then umb. greyish brown then hoary; g. crowded, narrow, pure white; s. 2—3 cm. solid, glabrous, rather shining; sp. 6—7 × 4.

subpulverulentum, Pers. P. 2—3 cm. greyish white, pulverulent, convex then depr. even, extreme edge persistently incurved; g. crowded, narrow, white; s. 3—4 cm. solid, whitish, slightly striate; sp. 5 × 3.

[**persicinum**, Fr. P. obtuse, even, glabrous, flesh-colour then pale; s. cartilaginous, glabrous; g. arcuate, white.

[**Juranum**, Q. Obtuse, rufous then pale, white-floccose, margin crenulate, mealy; g. white, crowded; s. solid, white, apex mealy.

* * *Gills violet, grey or smoky.*

[**urbum**, Fr. P. campan.-exp. brownish black with bluish tinge, subumb., margin straight; g. densely crowded, like flesh, bluish white; s. incurved, fibrillose, bulbous.

sordidum, Fr. P. 2·5—7 cm. plano-depr. subumb. glabrous, brownish lilac then dusky; g. rounded, dingy violet then dusky; s. 4—5 cm. coloured like p. fibrillosely striate, slightly curved as a rule; sp. 7—8 × 3—4, minutely rugulose.

Differs from *T. nudum* in being smaller, tougher, and hygrophanous.

var. *Feuilleauboisii*, Lucand and Quel. The broadly gibbous p. and s. dark umber; g. deep violet.

paedidum, Fr. P. 2—3 cm. soon depr. round conical umbo, smoky grey, somewhat streaked; g. crowded, adnexed, narrow, white then greyish; s. 2—3 cm. dingy grey, slightly striate base thickened; sp. 10—11 × 5—6.

Differs from *T. sordidum* in having no trace of violet colour; *T. lixivium* differs in the free truncate gills.

lixivium, Fr. P. 5—8 cm. greyish brown, soon plane and umb. margin expanded, membranaceous, striate; g. truncato-free, grey; s. 5—6 cm. grey, whitish floccose, often flexuous; sp. 7 × 4—5.

[**rasile**, Fr. Soft. P. campan.-exp. umb. fibroso-virgate, undulate, fuliginous; g. connected by veins, greyish-umber, edge white floccose; s. equal, fibrillose.

[**favillarum**, Fr. P. exp. depr. round umbo, even, glabrous, moist, edge spreading, even, whitish when dry; g. closely crowded, greyish.

putidum, Fr. Smell strong, rancid. P. 2—3 cm. umb. even, soft, olive grey, hoary when dry; g. adnexed, crowded, grey; s. 2—3 cm. greyish, pruinose; sp. 8—10 × 3—5.

Coll. rancida differs in glabrous, rooting stem.

[**hospitans**, Fr. Shining white, campan. obtuse, even, edge straight, adpressed to stem at first; g. free, very ventricose; s. solid, fibrous, glabrous, apex pruinose.

Resembling a *Mycena* but s. solid and fibrous.

RUSSULA, Fr.

I. Taste mild.

* *Gills ochraceous* (not clear yellow).

alutacea, Fr. P. 4—10 cm. viscid, exp. depr. red, dark purple, disc becoming pale, at length striate and tuberculose at margin, flesh white; g. broad, rather distant, ochre, naked; s. 4—5 cm. white or tinged red; sp. 7—9.

Differs from *R. integra* in gills not being powdery.

integra, Fr. P. 8—12 cm. viscid, exp. depr. red or greenish, margin at length sulcate and tuberculose, flesh white; g. broad, yellow, powdered with the ochre spores; s. 4—5 cm. even, ventricose, white; sp. 9—10.

var. *alba*, Cke. Whole fungus except gills creamy white.

xerampelina, Fr. P. 7—10 cm. compact, exp. then depr., dry, rosy purple sometimes tinged olive, disc paler, cracked into granules, flesh tinged yellow; g. forked, white then ochre; s. 4—7 cm. clavate, white, more or less tinged red; sp. 8—10 × 6—7.

Differs from *R. integra* by narrow gills not powdered with the spores.

nauseosa, Fr. Smell strong. P. 3—4 cm. viscid, plane then depr., purple or lilac, disc darker, coarsely striate; g. rather distant, ochre; s. 2—3 cm. slightly striate, white; sp. 8—9.

R. nitida differs in the yellow, shining gills.

var. *flavida*, Cke. P. primrose yellow.

vitellina, Fr. Strong scented. P. 2—3 cm. soon plane, yellow, edge tuberculose, striate; g. saffron ochre; s. 2—3 cm. slender, white; sp. 7—8.

Differs from *R. lutea* in strong smell and tuberculose margin.

var. *major*, Cke. Similar to type, but larger.

lilacea, Q. P. 4—7 cm. exp. depr., viscid, violet becoming pallid; g. white, broad; s. 4—6 cm. fragile, white or base tinted rose; sp. 7—8.

ochracea, Fr. Every part inside and outside ochraceous. P. 5—7 cm. viscid, coarsely striate; g. broad; s. 2—3 cm. wrinkled; sp. 10—12.

R. fellea differs in bitter taste.

lutea, Fr. P. 2—5 cm. plano-depr. viscid, yellow becoming pale; g. connected by veins, egg-yellow; s. 2—3 cm. even, white; sp. 8—10 × 7—8.

Differs from *R. vitellina* by even margin of p. and absence of smell.

elegans, Bresad. P. 4—7 cm. convex then depr., tuberculose and striate with age, rosy, yellowish towards margin, densely granular everywhere; g. ochraceous orange; s. 3—5 cm. white; sp. 8—10.

Differs from *R. vesca* in granular, rosy pileus.

armeniaca, Cke. P. 2—4 cm. soon depr., peach colour, margin even; g deep ochraceous; s. 4—5 cm. white, hollow; sp. 10 × 8.

[**ravida**, Fr. P. depr. wavy and more or less lobed, brownish grey then yellowish, opaque, edge even, flesh grey; g. broad, ochre; s. pallid, brown striate.

xanthophaea, Boud. P. depr., edge sulcate and tuberculose, brownish bay; gills clear ochre; s. white; taste mild.

Differs from *R. pectinata* in ochre gills and mild taste, and from *R. ravida* in pectinate and tuberculose margin.

* * *Gills yellow, without an ochraceous tinge.*

coerulea, Fr. P. 4—7 cm. convex then exp., polished, edge even, bluish or bluish purple; g. adnate, pale yellow; s. 4—5 cm. white; sp. 10—12.

Much the appearance of *R. cyanoxantha*, differs in crowded yellow gills.

nitida, Fr. Smell unpleasant. P. 3—5 cm. plane or slightly depr., viscid, purplish-bay, reddish, &c., shining, edge striate; g. sulphur yellow, naked; s. 5—7 cm. white then pallid; sp. 8—10 × 6—8.

R. nauseosa differs in ochre, powdered gills.

var. *cuprea*, Cke. P. copper colour.

aurata, Fr. P. rigid, 4—7 cm. plane, yellow, orange or reddish, disc darker, margin striate, flesh yellow under the viscid cuticle; g. broad, edge lemon yellow; s. 4—7 cm. white or yellow; sp. 8—10.

decolorans, Fr. P. 6—9 cm. globose then exp., regular, viscid, orange red then yellowish, margin becoming striate; flesh turning grey; g. yellowish; s. 6—9 cm. white then grey, especially inside; sp. 7—9.

Differs from *R. depallens* in the long s., and the yellow gills.

punctata, Gillet. P. 3—5 cm. convex then plane, viscid, rosy, punctate with brown warts, striate; g. yellowish, edge often reddish; s. 2—3 cm. coloured like p. base whitish; sp. 8—9.

var. *leucopus*, Cke. Stem white.

olivacea, Fr. P. 6—9 cm. convex then plane or depr., margin even, minutely silky squamulose, purple with olive tinge, or brownish olive; g. broad, yellow; s. 5—8 cm. pale rose; sp. 9—10.

Differs from *R. rubra* in deeper yellow colour of g. and unpolished p. and mild taste.

Linnaei, Fr. P. 6—9 cm. plane then depr., polished, edge even, blood red or dark rose; g. adnato-decur. yellowish; s. 3—6 cm. blood red; sp. — .

chamaeleontina, Fr. P. 2—4 cm. plane or subdepr., slightly viscid, edge becoming slightly striate, rose red, purplish lilac, &c., then yellowish; g. closely crowded, plane, yellow; s. 3—6 cm. white; sp. 7—8.

puellaris, Fr. P. 2—3 cm. almost membranaceous, conico-convex then exp., tuberculose striate to the middle, purplish livid then yellowish, disc brown; g. pale yellow, naked; s. 2—3 cm. yellowish white, soon hollow; sp. 10 × 8—9.

P. not shining as in *R. nitida*.

var. *intensior*, Cke. P. deep purple, blackish at disc.

var. *roseipes*, Secr. S. sprinkled with rosy meal.

[**bona**, Schwalb. P. often irreg, lilac, centre pallid or obscure, velvety; g. adnexed, pale yellow then pale egg-yellow; s. unequal, often curved, white, hollow; taste mild; 8—10.

[**grisea**, Fr. P. exp. depr., polished, grey or olive, disc purplish, edge even, flesh under cuticle violet; g. adnate, white then yellow s. even, polished, white.

* * * *Gills white or creamy white.*

† *Pileus white or cream colour* (often becoming blackish when old).

virginea, Cke. and Mass. Persistently pure white. P. 4—5 cm. soon exp., viscid, polished when dry; g. subdecur., narrow, repeatedly forked, veined; s. 4—5 cm. solid, rugulose; sp. 4—5.

semicrema, Fr. P. 6—9 cm. persistently white, edge involute, even, glabrous; g. decur. crowded, white; s. 3—5 cm. white, becoming blackish; sp. 8—9.

Differs from *R. adusta* and *R. densifolia* in persistently white p.—flesh also—and g., and from *R. delica* in flesh of stem becoming blackish.

lactea, Fr. Entirely white or pallid. P. 4—5 cm. obtuse, even, unpolished then minutely cracked; g. free, thick, distant; s. 2—4 cm. solid, stout; sp. 7—9.

var. *incarnata*, Q. P. white tinged rose, then pale tan.

nigricans, Fr. P. 7—12 cm. exp. umbilicato-depr. whitish, soon sooty-olive, flesh white, reddish when broken; g. rounded, very thick and distant; s. 3—6 cm. stout, solid, pallid then black; sp. 8—9. Every part black when old.

adusta, Fr. P. 6—9 cm. exp. depr. white then brownish, at length scorched; g. thin, crowded, pallid; s. 3—5 cm. solid, pallid then dusky grey; sp. 8—9.

Differs from *R. nigricans* in much closer gills, and in flesh not changing to red.

densifolia, Gillet. P. 3—9 cm. convex then depr. white then brownish, flesh red when broken; g. thin, crowded, pallid; s. 3—5 cm. slightly mealy, white then grey, at length blackish; sp. 7—8.

Differs from *R. adusta* in flesh turning red, and from *R. nigricans* in crowded gills.

delica, Fr. White. P. 8—14 cm. exp. umbil. polished, edge incurved, even, glabrous; g. decur. thin, distant, white; s. 3—5 cm. solid, compact; sp. 8—10 × 6—7.

This species has been confounded with *R. chloroides*, Bres. (= *R. delica*, Mass. Fung. Fl. III, 53, *Lact. exsuccus*, Otto, &c.) but differs in polished pileus, pure white gills, &c.

chloroides, Bresad. (= Lact. *exsuccus*, Otto; *Agaricus chloroides*, Krombh.; *Russula delica*, Mass, &c. not of Cooke). P. 8—12 cm. depr. edge involute, whitish, pubescent, flesh thick, white; g. decurrent, white with a tinge of green, connected by veins, forked; s. 3—5 cm. stout, white, tomentose, sometimes with a pale green zone at apex; sp. 8—9.

Differs from *R. delica* in pubescent pileus and stem, and green tinted gills.

†† *Pileus clear yellow.*

citrina, Gillet. P. 4—6 cm. slightly viscid, convex then depr.; g. broadest in front, forked, white; s. 4—7 cm. white, solid, slightly rugulose; sp. 7—8.

fingibilis, Britz. P. 4—5 cm. exp. depr. even, slightly viscid; g. almost free, white; s. 3—5 cm. white, becoming hollow; sp. 7—9.

††† *Pileus greenish or olive.*

olivascens, Fr. P. 5—8 cm. exp. umbil. olive disc becoming yellowish, edge even; g. white then tinged yellow; s. 2—4 cm. stout, firm, even; sp. 9—10.

heterophylla, Fr. P. 5—8 cm. exp. depr. even, polished, greenish, yellow-brown, &c., disc becoming ochre, flesh white; g. very narrow, closely crowded; s. 2—3 cm. solid, white; sp. 7—8.

var. *galachroa*, Fr. P. milky white then greenish.

Differs from *R. cyanoxantha* in very narrow, crowded gills.

[**smaragdina**, Q. P. thin, viscid, somewhat zoned, clear green, edge white; g. narrow, white; s. slender, pruinose, white; taste mild.

azurea, Bres. P. 4—5 cm. exp. depr. pale glaucous green, with white bloom; g. pale cream colour; s. 2—3 cm. white, rugulose; sp. 8—9.

Differs from *R. cyanoxantha* in white meal on the pileus.

virescens, Fr. P. 7—12 cm. exp. umbil. dingy opaque green, innately flocculose, areolately cracked; g. rather crowded, forked; s. 4—6 cm. stout, white; sp. 8—9. Edible.

[**luteo-viridans**, C. Mart. P. convex then depr. then edge erect and sulcate, pellicle viscid, separable, yellow with green or brown stains; g. broad; s. reticulated, base narrowed. Acrid.

var. *bicolor*, C. Mart. Disc of p. yellow, edge brown; g. dark ochre.

var. *purpurea*, C. Mart. P. purple, disc yellow.

furcata, Fr. P. 6—10 cm. rigid, depr. sometimes subinfund. even, dark lurid green, even, frosted with a white silkiness; g. adnato-decur. thickish, forked; s. 4—7 cm. firm, even, white; sp. 7—8.

var. *pictipes*, Cke. S. rosy at apex, greenish below.

var. *ochroviridis*, Cke. Disc of p. olive or sooty, ochraceous towards edge.

aeruginea, Lindbl. P. 6—9 cm. exp. darker disc depr., verdigris green, edge striate; g. narrow behind, slightly adnexed, pure white; s. 4—5 cm. firm, even, persistently white; sp. 8—10.

†††† *Pileus red, brownish, purple, sometimes with green intermingled.*

lepida, Fr. P. 6—9 cm. compact, depr. not polished, blood red, becoming pale, minutely cracked into squamules; g. much forked; s. 3—5 cm. even, white with rosy tinge; sp. 6—8.

atropurpurea, Kromb. P. 6—8 cm. hard, convex then exp. depr. smooth, even, deep blood red or purple red; g. adnate, white; s. 5—6 cm. white or tinged red.

Differs from *R. rubra* in being quite mild.

[**cerasina**, C. Mart. P. viscid, depr. subcyathiform, edge sulcate, pellicle separable, cherry-red, disc yellow, flesh purple under cuticle; g. adnato-decur. ochre; s. rugulose, white. Acrid.

cutefracta, Cke. P. 6—12 cm. exp. depr. even, purple, dull red, etc., cracking into areolae from edge towards disc; g. adnexed, crowded; s. 6—8 cm. solid, white with tinge of purple; sp. 7—10.

vesca, Fr. P. 5—8 cm. exp. depr. flesh colour, disc darker, viscid, rugulose; g. adnate, crowded; s. 3—5 cm. solid, white, reticulately wrinkled; sp. 9—10.

var. *Duportii*, Phil. P. disc rufous, edge bluish, flesh reddish when cut. Smells of crab.

var. *lilacea*, Q. P. violet or purple, flesh violet under the cuticle.

var. *Barlae*, Q. P. peach colour.

depallens, Fr. P. 6—9 cm. firm, undulate, viscid, reddish, crimson, or brownish, disc paler at length; g. crowded, forked; s. 3—4 cm. base narrowed, white then grey; sp. 7—8.

Differs from *R. decolorans* in having white gills.

[**pallida**, Karst. Acrid. P. convex then exp. mostly undulate, rather viscid, constantly pallid, here and there tinged rose, edge even; g. white, edge sometimes sulphur; s. white, often curved; sp. 5—8.

Differs from *Russula pallescens* in being more robust and even margin of p.

cyanoxantha, Schaeff. P. 5—9 cm. globose then depr. or infundib. viscid, lilac, purplish, olive green, &c., edge generally bluish; g. broad, forked; s. 4—6 cm. even, white; sp. 8—9.

elephantina, Fr. P. 6—10 cm. convex, umbil. margin incurved, brownish tan, wavy; g. obtusely adnate, arcuate, rather crowded, thin; s. firm, white; sp. — .

Differs from *R. nigricans* and *R. adusta* in not turning black or red when old.

mustelina, Fr. P. 5—7 cm. depr. edge upturned, even, opaque, brownish or dingy yellowish, flesh persistently white; g. crowded, thin, connected; s. 4—5 cm. even, white; sp. 7—8.

II. Taste acrid.

* *Gills yellow or ochraceous.*

† *Pileus yellow or ochraceous.*

fellea, Fr. Every part, outside and inside, pale ochraceous or straw colour, very acrid. P. 3—7 cm. exp. not becoming pale; g. adnate; s. even, 4—6 cm.

Differs from *R. ochracea* in being very acrid.

aurata, Fr. P. 6—10 cm. rigid, exp. polished, citrin or orange, sometimes reddish, edge becoming striate, flesh under cuticle citrin; g. broad, shining citrin; s. 5—8 cm. white tinged yellow; sp. — .

[**rhytipes**, Fr. Foetid. P. depr. dry, yellowish, blotched purple or olive, corrugated, flesh sulphur yellow; g. broad, yellow, edge darker; s. conical, reticulately rugose, greyish purple.

No account of mild or acrid taste is given, hence its position is uncertain. Has points in common with *R. aurata*.

claroflava, Grove. P. 5—7 cm. bullate then plane, chrome yellow; g. white, lemon yellow, then tinged ochre; s. 3—6 cm. white then grey or blackish; sp. 8—9.

Differs from *R. ochroleuca* in bright yellow p.

†† *Pileus red or purple.*

rubra, Fr. P. 3—9 cm. rigid, convex exp. depr. dusky blood red or with a tinge of purple, polished and even when dry; g. adnate whitish; s. 4—7 cm. hard, white sometimes tinged red; sp. 8—10.

Differs from *R. atropurpurea* in very acrid taste.

drimeia, Cke. (=*R. expallens*, Gil.). P. 5—9 cm. firm, exp. depr. bright purple to rose colour; g. clear yellow; s. 4—8 cm. purple, paler than p.; sp. 7—9. Intensely acrid.

veternosa, Fr. P. 4—5 cm. plano-depr. rosy or flesh colour then pale, slightly viscid; g. adnate, narrow, white then straw colour; s. 5—8 cm. spongy then hollow, white; sp. 7—9.

maculata, Q. P. 5—8 cm. thin, firm, exp. viscid, reddish flesh-colour, then pale and blotched brownish; g. sulphur then peach colour; s. 3—4 cm. white or tinged rose, then spotted ochre; sp. 9—10.

Differs from *R. depallens* in being smaller, acrid, and stem not grey.

serotina, Q. P. 2—2·5 cm. globose then more or less exp. purple brown or olive, edge lilac, with white bloom at first; g. almost free, white then tinged yellow; s. 2—3 cm. white; sp. 8—9.

** *Gills white.*

† *Pileus ochraceous or umber.*

ochroleuca, Fr. P. 7—9 cm. exp. depr. viscid at first, ochraceous then pale, disc cracked into granules, margin almost even; g. rounded behind, broad, subequal, whitish; s. 4—7 cm. soft, white then grey, reticulately rugulose; sp. 8—9.

Differs from *R. granulosa* in stem becoming grey.

granulosa, Cke. P. 4—7 cm. exp. often depr. viscid at first, ochraceous, disc darker and granular; s. 4—7 cm. white, granular; g. nearly free, white; sp. 11—12.

Close to *R. ochroleuca*, differing in granular persistently white stem.

foetens, Fr. Foetid. P. 7—12 cm. bullate, then exp. and depr. rigid, viscid, edge at first incurved, tuberculato-sulcate, ochraceous then pale; g. very unequal, forked, whitish; s. 4—5 cm. soon hollow, whitish; sp. 8—10.

[**foetida**, C. Mart. Smell foetid. P. viscid, sulcate, yellow-brown, flesh under cuticle brown, rest white; g. forked near stem, white then yellow; s. very fragile, hollow, white, often spotted red below. Mild.

consobrina, Fr. P. 6—8 cm. exp. depr. viscid, edge even, brown or dark grey, flesh grey under the cuticle; g. forked, white; s. 4—6 cm. white then grey; sp. 8—9 × 7.

var. *sororia*, Fr. Edge of p. striate.

pectinata, Fr. Smell nauseous. P. 5—7 cm. exp. then depr. or

broadly infundib., rigid, brownish tan then pale except disc, viscid, margin sulcate, flesh yellowish under cuticle; g. attenuato-free, equal, white; s. rigid, striate, white; sp. 8—9.

Differs from *R. consobrina*, var. *sororia* in tubercular sulcate edge, and gills not connected by veins.

intermedia, Karst. Acrid. P. exp. depr. irreg. viscid, edge even, at length sulcate and tuberculose, tawny, disc darker, discoloured; g. white then yellowish; s. white.

Near to *Russ. integra*, differs in taste and colour.

sardonia, Fr. P. 5—8 cm. plane, wavy, viscid, edge even, dingy yellow, then pale; g. adnate, closely crowded, white then yellowish; s. 3—5 cm. white often tinged red; sp. 9—10.

Differs from *R. rosacea* and *R. expallens* in yellowish colour.

†† *Pileus red or purplish.*

emetica, Fr. P. 6—9 cm. exp. depr. shining, rosy to blood red, then pale or white, edge at length sulcate, flesh white, red under cuticle; g. free, white; s. 4—7 cm. even, white or tinged red; sp. 7—8. Poisonous.

var. *Clusii*, Fr. Flesh and gills tinged yellow.

rosacea, Fr. P. 5—9 cm. exp. unequal, viscid then dry and spotted, rosy; edge acute, even; g. adnate, white; s. 3—5 cm. white or tinged rose; sp. 7—8.

Differs from *R. sanguinea* in irregular, often excentric p. and broader gills.

sanguinea, Fr. P. 5—9 cm. exp. depr. or infundib. polished, blood-red then pale, edge acute, even; g. decur. closely crowded, white; s. 4—7 cm. striate, white or tinged red; sp. 9—10.

R. rubra differs in rigid p. and g. tinged yellow.

fragilis, Fr. P. 3—4 cm. thin, fragile, exp. flesh colour or red, soon pale, rather viscid, edge tubercular-striate; g. thin, crowded, ventricose, white; s. 3—5 cm. white, polished; sp. 8—10 × 8.

var. *nivea*, Cke. Entirely white.

var *violacea*, Q. P. violet, with narrow pale edge.

var. *fallax*, Cke. Disc of p. very dark, rest pale reddish purple.

Queletii, Fr. P. 5—8 cm. soon plane, viscid, dark violet, edge slightly striate, lilac; g. white; s. 3—5 cm. purple; sp. 7—8.

var. *purpurea*, Cke. (= *R. purpurea*, Gillet). Stem whitish, tinged rosy at middle part; g. pale yellow.

MYCENA, Fr.

I. Calodontes. *Edge of gills denticulate, dark coloured.*

pelianthina, Bolton. P. 1·5—3 cm. obtuse, hygr. purplish then pale; g. broad, adnexed, purplish with darker fimbriated margin; s. 5—8 cm. equal, pallid; sp. 7 × 4.

balanina, B. P. 2—4 cm. exp. umb. pale yellowish brown, striate when moist; g. adnate, separating, pinkish-white, edge purple; s. 6—8 cm. tinged brown, squamulose above, brown and thin below.

[**crenulata**, Schum. P. camp. umb. purplish-bay; g. adnexed, paler than p., edge distinctly crenulated but scarcely darker; s. even, glabrous, base narrowed.

mirabilis, Cke. and Q. (= Ag. *marginellus*, Fr., non Pers.). P. 1—1·5 cm. camp. pale bluish grey, umb. darker, then tan, finely striate; g. whitish, edge darker with minute particles; s. greyish, minutely floccose, rooting and tomentose at base; sp. — .

aurantiomarginata, Fr. P. 2—3 cm. subumb. even, brownish olive then pale; g. adnexed, edge flocculent, orange; s. 2—4 cm. base ventricose and strigose; sp. — .

elegans, Pers. P. 1·5—2 cm. umb. striate, brown or livid-yellow; g. adnate, edge saffron; s. 4—5 cm. equal, livid; sp. 8—10 × 4—5.

olivaceomarginata, Mass. P. 1—1·5 cm. striate up to disc, honey colour; g. adnexed, pallid, edge brownish olive; s. 3—4 cm. shining, coloured like p.; sp. 6 × 4—5.

[**avenacea**, Fr. P. camp. obt. fuscous then livid grey, slightly striate; g. adnate, white, edge fuscous; s. even, glabrous, without juice, base fibrillose.

[**atromarginata**, Fr. P. exp. sulcate, viscid; g. white with a very narrow black edge; s. tall, striate, glabrous.

rubromarginata, Fr. P. 1—2 cm. camp. obtuse, striate, hygr. grey, livid, reddish &c., paler; g. adnate, whitish, edge purple brown; s. 3—4 cm. even, pallid; sp. — .

var. *fuscopurpurea*, Lasch. P. purple brown; g. edge eroded, brownish.

[**luteorufescens**, Karst. P. campan. often oblique, striato-virgate, yellowish fuscous, disc rufescent, opaque; g. distant, whitish glaucous; s. yellowish, glabrous; sp. 8—13 × 7—9.

[**viridimarginata**, Karst. P. campan. exp. umb. sulcate, glabrous, brownish honey-colour, not hygr.; g. white then glaucous; s. rigid, fragile, honey-colour then pale, not rooting; sp. 7—11 × 6—7.

strobilina, Fr. Every part deep red. P. 1—1·5 cm. acutely umb. not becoming pale; g. adnate edge dark blood red; s. 3—4 cm. rigid; sp. 8—10 × 4.

var. *coccinea*, Sow. Edge of g. not darker.

Differs from *M. rosella* in larger size, and in not becoming pale, acute umbo, &c.

rosella, Fr. Every part pale rose colour. P. 4—7 mm. obtusely umb. striate, becoming pale; g. adnate, edge darker; s. 2—3 cm. slender; sp. 7—8 × 4.

[**venustula**, Q. P. white, diaphanous, with rosy granules; g. few, white, edge rosy; s. white, hyaline.

carneosanguinea, Rea. P. 2·5—3 cm. livid grey, umbo rufous, even, flesh becoming blood-red when broken; g. purplish-brown,

edge dark purple, denticulate; s. 4 cm. grey, base thickened; sp. 4—5 × 2—3.

[**citrinomarginata**, Gill. P. campan. striate to apex, yellow; g. distant, pale, edge citrin; s. thickened and downy at base, pale.

[**fuscomarginata**, Godey. P. campan. even, pale tan then pallid; g. pale, edge brownish or reddish-purple; s. bay, summit pale.

II. ADONIDEAE. *Stem juiceless, gills all one colour, colour clear, bright, not brownish or greyish.*

pura, Pers. Smell like radishes. P. 3—6 cm. umb. margin striate, lilac, reddish, &c., then pale; g. sinuato-adnexed, very broad, connected by veins, pale; s. 5—8 cm. even, pale or tinged like pileus; sp. 6—8 × 3—3·5.

M. pelianthina differs in dark edged gills.

M. pseudopura and *M. zephira* have no smell.

M. ianthina differs in persistently conical pileus.

[**fimicola**, Karst. P. convex then plane, umb. or papillate, umb. striate, glabrous, reddish ochre then tan; g. whitish then tan; s. equal, wavy, tough, glabrous, rusty then bay; sp. 6—9 × 3—4.

var. *multicolor*, Bres. P. clear greyish blue, umbo tawny, edge striate; g. grey; s. rosy-purple, base yellowish, tomentose; sp. 7—9 × 4—5.

pseudopura, Cke. P. 2 cm. exp. obtusely umb. vaguely striate, rosy then pale; g. adnate, whitish; s. 4—6 cm. rigid, pallid rosy, brownish when dry, naked; sp. 12 × 5.

M. pura differs in larger size of entire fungus, and smaller spores.

M. zephira differs in squamulose stem.

zephira, Fr. P. 2—3 cm. diaphanous, obtuse, striate to middle, reddish or pinkish; g. adnate white; s. 4—6 cm. tinged pinkish rufescent, squamulose, base cottony; sp. — .

Differs from *M. pura* in absence of smell.

[**caesiolivida**, Bres. P. campan. exp. or revolute, subirreg. glabrous, hygr. livid blue or grey then rosy livid; g. white then rosy, at length livid flesh colour; s. short, greyish or bluish livid, base strigosely rooting; 8—10 × 5·5—6.

[**Renati**, Q. P. rosy lilac, disc brownish; g. white then tinged rosy; s. pellucid, amber yellow.

[**Seynii**, Q. P. vinous, shining; g. rosy lilac; s. fistulose, hyaline, purplish, base hairy, white.

[**punicella**, Fr. P. conical, obtuse, subviscid, scarlet, edge striate, yellow; g. free, pallid; s. diaphanous, rooting, base dusky green, apex yellowish.

flavipes, Q. Tufted, smells like radishes. P. 1—2 cm. camp. obtuse, rosy pink or lilac; g. adnexed, whitish; s. 4—5 cm. polished, yellow, rooting; sp. 10 × 4—5.

[**rubella**, Q. P. campan. striate, orange red; g. white then tinged rosy; s. hyaline, apex rosy.

adonis, Bull. P. 3—5 cm. conical then campan. rosy; g. uncinately adnexed, narrow, white tinged pink; s. equal, white; sp. — .

[**chlorantha**, Fr. P. camp. obtuse, green; g. sinuato-adnexed, white; s. short, glabrous, greenish.

lineata, Bull. P. 1—2 cm. obt. glabrous, everywhere finely striate, tinged yellow or whitish; g. adnate, white; s. 4—5 cm. even, base downy; sp. — .

farrea, Lasch. P. 2—2·5 cm. very thin, expanded, furfuraceous with shining particles, pale, sulcate; g. adnate, snow-white; s. 6—7 cm. silky, striate; sp. — .

Among moss and grass. The only known *Mycena* with a furfuraceous pileus.

luteoalba, Bolton. P. 1—2 cm. campan. then exp. and umb. pale yellow; g. adnate, broad, white; s. 3—5 cm. shining, glabrous, yellowish; sp. — .

flavoalba, Fr. P. 1—5 cm. exp. umb. often cracked at margin, yellowish or white; g. soon free, distant; s. 2—3 cm. white, pellucid, apex pruinose; sp. 6—8 × 3—4.

M. lactea differs in adnate gills and downy base of stem.

M. luteoalba has a yellowish stem.

lactea, Pers. White. P. 1—1·5 cm. subumb. striate, even when dry; g. adnate, narrow, crowded; s. 3—5 cm. toughish, not quite straight, glabrous; sp. 7—8 × 3—4.

Differs from *M. gypsea* and *M. tenuis* in scattered habit.

var. *pithya*, Fr. Smaller, p. becoming almost plane; s. thin, base bubillose, downy.

forma *pulchella*, Fr. Milk-white; g. linear, ascending; s. attenuated. Solitary.

[**olida**, Bres. Smell very strong, rancid. P. thin, conico-campan. obtuse, then exp. and umb. yellow soon pale straw; g. uncinato-decur. connected by veins, white; s. hyaline, strigosely rooting; sp. 8—9 × 6.

gypsea, Fr. Caespitose. Pure white, rarely with a yellow tinge. P. 1—2 cm. conical then campan. striate up to umbo, glabrous; g. subuncinate; s. 5—7 cm. straight, narrowed upwards from hairy base; sp. 8—9 × 4.

[**nivea**, Q. Shining white. P. sulcate, diaphanous; g. uncinate; s. pruinose, base rather swollen, fibrillose.

[**galeropsis**, Fr. P. conico-camp. even, gilvous; g. free, whitish; s. straight, narrowed upwards, fragile, not rooting, ferruginous below.

[**nucida**, Brig. P. campan. obtuse, even, downy under a lens, deep rust-colour, hygr.; g. free, white then rosy; s. silky shining, base snow-white, apex mealy.

[**Benzonii**, Fr. P. very thin, campan. exp. umbil. finely striate, pallid or reddish; g. white; s. equal, glabrous, white.

An introduced species.

[**melanops**, West. P. convexo-camp. plicate, umbo blackish-brown; g. adnexed to a collar; s. slender, glabrous base fibrillose.

[**pruinatus**, Fr. Shining white. P. thin, conico-campan. papillate, edge deflexed, sulcate, pruinose; g. crowded; s. bulbous, naked.

III. RIGIDIPEDES. *Stem firm, rigid, rather tough, juiceless, base strigosely rooting, gills discoloured, grey, reddish, &c., often connected by veins.*

cohaerens, Fr. P. 2—3 cm. camp. obtuse, tawny cinnamon, soft and velvety; g. free, distant, very broad, pallid; s. 8—12 cm. horny, rigid, even, shining, bay, base downy, rooting; sp. 10 × 7—8.

[**raeborhiza**, Lasch. P. acute camp. exp. glabrous, striate, rather tawny then pale; g. almost free, connected by veins; s. even, floccosely pruinose, rooting, tinged tawny.

prolifera, Sow. Caespitose. P. 1—2 cm. camp. then exp. subumb., margin coarsely striate, yellowish tan; g. adnexed; s. 6—8 cm. glabrous, shining, striate, brownish below, rooting; sp. — .

excisa, Lasch. (non Berk.). P. 2—3 cm. camp. then obtuse, greyish fuscous or pallid; g. scarcely adnexed, narrowed behind, very broad in front, pallid; s. 2—3 cm. tough, even, grey, rooting; sp. — .

Differs from *M. polygramma* in smooth stem.

var. *fagetorum*, Fr. Slender. P. even, striate to middle, smoky or livid then pale; g. joined to a collar; s. incurved at base, fixed to leaves by down.

rugosa, Fr. P. 2—5 cm. camp. then exp. subumb. tough, irreg. radially rugulose, greyish; g. arcuately adnate, white then tinged grey; s. 3—4 cm. tough, even, glabrous, pallid; sp. — .

sudora, Fr. White. P. 2—3 cm. umb. striate, viscid; g. obtusely adnate, sometimes tinged pink; st. 6—10 cm. even, dry, rooting; sp. — .

galericulata, Scop. P. 2—5 cm. conic camp. exp. striate up to umbo, dry, brownish, livid, &c.; adnate with decurrent tooth, connected by veins, pinkish when old; s. 5—8 cm. polished, even, glabrous; sp. 6—7 × 4.

M. rugosa differs from present sp. in having grey gills and rugulose pileus.

[**simillima**, Karsten. P. conico-campan. even, dry, glabrous, livid or dingy pallid; g. emarginato-decur. crowded, white, very slightly tinged rose; s. fragile, polished, even, glabrous, base curved, rooting; sp. — .

Very near to *Mycena galericulata*, differing in being fragile and in becoming pale.

polygramma, Bull. P. 3—7 cm. conic camp. subumb. dry, striate, dark grey or blackish-blue when young; g. pale pinkish-grey

tinge; s. 7—12 cm. rigid, tough, shining, longitudinally striate, strigosely rooting, grey; sp. 11—12 × 6.

Differs from *M. plicata* in striate stem.

[**inclinata**, Fr. P. camp. obtuse, striate to middle, everywhere brownish; g. adnate, whitish, base grey; s. rigid, twisted, pruinosely fibrillose, upwards interruptedly striate.

parabolica, Fr. P. 2—5 cm. oval then camp. striate to middle, disc blackish-violet, margin paler, becoming pale; g. adnate; s. 4—7 cm. even, glabrous, base strigose, dark coloured; sp. 11—12 × 6.

Differs from *M. galericulata* in absence of decurrent tooth of gills, also their pinkish colour.

tintinabulum, Fr. P. 2—3 cm. tough, camp. even, bay, yellow brown, pallid, &c., viscid when moist; g. adnate with a decurrent tooth, crowded; s. 2—3 cm. even, glabrous, pallid, strigosely rooting; sp. 7—8 × 5.

Differs from *M. galericulata* in short stem and even pileus.

Berkeleyi, Mass. (= *excisa*, B.). P. 3—7 cm. camp. striate up to umbo, hygr. dingy brown then paler; g. broadly sinuate with decurrent tooth, tinged flesh colour; s. 7—12 cm. long, purplish brown, base rooting; sp. 5 × 3·5.

[**laevigata**, Lasch. Constantly white. P. hemispher.-exp. obtuse, even when dry; g. with decur. tooth, crowded, distinct, joined to a collar; s. even, glabrous, lubricous, base strigose.

Requires to be carefully distinguished from white forms of *M. galericulata* and *M. rugosa*. S. lubricous when moist, not viscid.

[**lasiosperma**, Bres. Caespitose. P. thin, conico-campan. exp. umb. edge then upturned, rather viscid, striate to umbo, livid grey with a grey bloom at first; g. sinuato-unc. connected by veins, whitish then grey; s. pallid above, chestnut and white-pruinose below; sp. globose, aculeate, 6—7.

IV. Fragilipedes. *Stem fragile, dry, juiceless. Pileus hygrophanous. Gills often discoloured.*

atroalba, Bolton. P. 2—3 cm. campan. obtuse, disc blackish or fuscous, whitish towards striate margin; g. free, crowded, glaucous; s. 6—10 cm. pallid, apex darker, base swollen, strigose; sp. — .

dissiliens, Fr. Smell strong, very fragile, conico-camp. obtuse, greyish-brown then pale, grooved to middle; g. broadest in front, base tinged grey; s. 4—5 cm. subincurved, slightly striate, dusky grey, base strigose; sp. — .

When compressed the stem splits into pieces which curl outwards elastically.

atrocyanea, Batsch. P. 1—1·5 cm. convex-camp. sulcate, dark brown then blue-grey, powdered with white meal, deformed umbo obtuse; g. adnexed, whitish; s. 3—4 cm. slender, glabrous, blackish-blue; sp. — .

pullata, B. and Cke. Smell slightly nitrous. P. 1·5—2 cm. dark brown, disc blackish, obtusely umb. striate to middle; g. white; s. 5—6 cm. coloured like pileus, rooting; sp. 6 × 3.

M. leucogala and *M. galopoda* differ in white milk in stem.

M. atrocyanea differs in dark blue tinge of p. and s.

[**cinerella**, Karst. Smell very strong of meal. P. campan. entirely striate, grey or greyish-pallid; g. broadly adnato-decur. greyish-white; s. greyish-white, base fibrillose, not rooting; sp. — .

psammicola, B. and Br. Smell strong. P. 4—6 mm. hemispherical, brown, paler towards striate margin, sprinkled with minute particles; g. adnexed, sinuate; s. 1·5—2 cm. umber, paler upwards, everywhere pulverulent; sp. — .

Differs from *M. paupercula* in pulverulent stem and pileus.

paupercula, B. Smell strong. P. 2—4 mm. conical, exp. pale ochraceous, minutely fibrillose; g. free, whitish; s. 1—1·5 cm. slender, whitish, rooting; sp. — .

leptocephala, Pers. Smell strong, solitary, entirely grey. P. 2—2·5 cm. umb. sulcate, pruinose, opaque; g. emarginate; s. 4—5 cm. slightly striate, opaque, dry; sp. — .

alcalina, Fr. Smell strong. P. 1·5—2·5 cm. camp. obtuse, naked, deeply striate when moist, shining when dry, pallid or tinged yellowish-green; g. adnate; s. 4—7 cm. yellowish, viscid, glabrous, shining, base villose; sp. 8 × 5.

ammoniaca, Fr. Smell strong. P. 1·5—2 cm. conico-exp. umb. naked, discoid, opaque, dark brown or greyish, striata at paler margin; g. adnate; s. even, glabrous, rooting, pallid, 4—5 cm.; sp. — .

M. alcalina differs in tufted habit, viscid stem with yellow tinge of colour.

metata, Fr. Smell weak, alkaline, soft. P. obt. striate, hygr. grey—rarely yellowish or pinkish—even, opaque, and whitish when dry; g. adnate, not connected by veins, whitish; s. 4—7 cm. firm, even, glabrous, base fibrillose; sp. — .

cinerea, Mass. and Crossl. Entirely grey, smell strong, like radishes. P. 1·5—2 cm. subgibbous, exp. pale, silky and even when dry; g. adnate; s. 5—7 cm. glabrous, downy and white at base; sp. 8 × 5; cystidia fusiform.

M. leptocephala differs in sulcate p., and *M. metata* in white gills. *M. plumbea* has no smell.

plicosa, Fr. 1·5—2·5 cm. exp. plicato-sulcate, greyish brown, opaque when dry; g. thick, distant, veined, grey; s. 3—4 cm. polished, greyish; sp. globose, 4—5.

[**subplicosa**, Karst. P. campan. obtuse, with distant grooves, almost plicate, glabrous, grey then pallid; g. adnate, whitish; s. rigid, shining, hyaline or livid, base strigose not rooting; sp. 6—8 × 3—5.

consimilis, Cke. P. 1·5—2·5 cm. camp. grey, umbo darker, striate to middle, margin upturned and splitting; g. adnexed, grey; s. 2·5—3·5 cm. dry, smooth, paler than p.; sp. — .

More or less resembling several species. *M. leptocephala* and *M. metata* differ in strong smell. *M. peltata* in orbicular plane pileus. *M. rugosa* differs in rugose pileus.

peltata, Fr. P. 1·5—2 cm. orbicular, soon plane, disc fleshy, blackish brown then grey, margin striate; g. with decurrent tooth, grey; s. 3—4 cm. even, glabrous, base downy; sp. — .

Differs from *M. pelliculosa* in absence of viscid pellicle.

aetites, Fr. P. 1·5—2 cm. camp.-convex, coarsely striate, hygr. broad obtuse umbo prominent, brownish; g. uncinate, thin, connected by veins; s. 4—5 cm. glabrous, shining subcompressed; sp. — .

stannea, Fr. P. 2—3 cm. exp. hygr. grey, even, and tin colour with a silky sheen when dry; g. with decurrent tooth, connected by veins, greyish white; s. 5—7 cm. even, shining, often compressed; sp. — .

Differs from *M. vitrea* in decurrent tooth to gills.

vitrea, Fr. P. 1·5—2·5 cm. livid brown, finely striate all over, no trace of umbo or fleshy disc; g. adnate, not connected by veins; s. 6—9 cm. slightly striate, polished, pale, base fibrillose; sp. — .

Differs from *M. aetites* and *M. stanneus* in gills not having a decurrent tooth and not connected by veins.

tenuis, Bolton. White, tufted. P. 1—1·5 cm. brittle, camp. obtuse, then exp. striate; g. adnate; s. 5—7 cm. thin, pellucid, glabrous; sp. — .

M. gypsea differs in decurrent tooth of gills, and strigose base of stem.

V. FILIPEDES. *Stem very slender, flaccid, rooting, dry, juiceless. Gills discoloured, edge paler.*

filopes, Bull. P. 1—1·5 cm. camp. then exp. striate, livid grey; g. free, white; s. 6—8 cm. flaccid, glabrous, rooting, base downy; sp. — .

iris, B. P. 1—2 cm. exp. obtuse, slightly viscid, striate, blue when young, then brownish with blue fibrils; g. free, tinged grey; s. 3—6 cm. bluish below, tinged brown above, with scattered fascicles of down; sp. — .

amicta, Fr. P. up to 1 cm. conico-camp. greyish, striate to middle, dry, glabrous; g. free, grey; s. 6—10 cm. filiform, tough, downy-pulverulent; sp. — .

plumbea, Fr. P. 1—2 cm. convex then flattened, obtuse, sulcate, lead colour powdered with white meal; g. adnate, horizontal, grey; s. 6—8 cm. elongated, pulverulent, grey, apex hyaline, base strigose, fragile; sp. — .

[ianthina, Fr. P. conical, striate all over, glabrous, lilac; g. broadest in front, greyish-white; s. attenuated, flaccid, glabrous, slightly striate, brownish lilac.

Differs from *P. pura* in persistently conical pileus.

urania, Fr. P. camp. then convex, dark violet when young, then

blue becoming pale; g. uncinato-adnate, white; s. flaccid, even, glabrous, base rather rooting, floccose.

debilis, Fr. P. 1—1·5 cm. camp.-convex, striate, whitish or livid then brownish, opaque, rugulose when dry; g. broadly adnate; s. 3—5 cm. flaccid, base fibrillose not rooting; sp. — .

[**lasiosperma**, Bres. P. striate, grey, umbo darker; g. greyish white; s. white, pruinose, base brownish, strigosely rooting; sp. globose, aculeate.

vitilis, Fr. P. 4—7 mm. conical then exp. papillate, deeply striate when moist, brownish or greyish then pale; g. narrowed and adnate, greyish white; s. 6—14 cm. livid, flexile, rooting; sp. — .

Var. *amsegetes*, Secr. P. conico-campan. everywhere striate; g. not connected by veins, edge entire; s. thicker, short.

[**latebricola**, Karst. P. campan. then plano-convex, disc depr. striate, livid, fuscescent when dry; g. adnato-decurr., whitish; s. filiform, tough, glabrous, pallid, root strigose; sp. — .

[**canescens**, Weinm. P. hemispher. then plane, subumbil., white then tinged grey; g. adnate, greyish; s. filiform, sooty grey, base fibrillose.

collariata, Fr. P. 1—2 cm. convex, subumb. striate, brownish or greyish then pale; g. adnate to a collar, whitish then tinged pink; s. 2—3 cm. pale, polished, tough; sp. — .

[**cimmeria**, Fr. P. convex, slightly striate, dry, yellowish brown; g. adnexed, saffron yellow, edge white; s. glabrous, fibrillosely rooting.

[**cladophylla**, Lév. P. camp.-convex, wavy, glabrous, greyish white, shining; g. adnate, branched; s. naked, white, base brownish.

[**epiphloea**, Fr. P. persistently acutely conical, papillate, everywhere striate, whitish, apex tinged brown; g. free, ventricose, distant; s. diaphanous, pallid.

[**supina**, Fr. Small. P. obtuse, striate; g. almost free, ventricose, white; s. short, incurved, tough, glabrous, white.

speirea, Fr. P. 1 cm. convex, dark disc becoming depr. greyish with brown lines; g. plane then decurrent, shining white; s. 3—4 cm. tough, polished, fibrillosely rooting; sp. — .

tenella, Fr. Tufted. P. up to 1 cm. obtuse, whitish, pellucid, margin striatulate; g. uncinate, white then pink; s. 2 cm. glabrous, base downy; sp. — .

Caespitose. Altogether white or livid-rosy. Pileus exceedingly delicate.

acicula, Schaeff. P. 2—3 mm. camp., orange red, margin striate; g. yellow; s. 2—3 cm. yellowish, base rooting; sp. — .

Pileus at first subumbonate. Gills subovate, almost free, yellow then pale.

VI. LACTIPEDES. *Gills and rooting stem dry, giving out mik when broken.*

haematopoda, Pers. Caespitose, P. 2—4 cm. camp. obtuse, edge denticulate, reddish disc darker; g. adnate, whitish, edge the same; s. 4—5 cm. reddish, white pulverulent, containing dusky red juice.

cruenta, Fr. P. 1 cm. conico-camp. margin striate, edge entire, reddish; g. adnate, entirely white; s. 4—7 cm. containing dusky red juice; sp.

sanguinolenta, A. and S. P. 1 cm. convexo-camp. striate, reddish, edge darker; s. 3—5 cm. reddish with dark red juice; sp. — .

crocata, Fr. P. 1·5—2·5 cm. conico-camp. umb. reddish; g. white; s. 7—12 cm. narrowed, downy rooting, containing saffron-red juice; sp. — .

chelidonia, Sow. P. 1 cm. camp. then obtuse, nearly even, pinkish with yellow tinge; g. adnate, tinged yellow; s. 4—5 cm. smooth, rooting, often compr. with yellow juice; sp. 9—10 × 5.

galopoda, Fr. P. 1—1·5 cm. camp. umb. striate sooty or greyish; g. glaucous; s. slender, pallid, fibrillosely rooting, containing white milk; sp. 9—10 × 5.

M. leucogala differs in the grey gills.

leucogala, Cke. P. 1—1·5 cm. camp. umb. sulcate, sooty or purple brown; g. adnate, grey; s. 4—7 cm. dark with whitish down at base, containing a large quantity of white milk; sp. — .

M. pullata and *M. atrocyanea* differ in having no milk.

VII. GLUTINIPEDES. *Stem juiceless, viscid or glutinous.*

epiterygia, Scop. P. 1—2·5 cm. camp. then exp. striate with a separable viscid pellicle, greyish or greenish yellow; g. adnate; s. 5—9 cm. tough, glabrous, viscid, rooting, yellowish; sp. 8—10 × 4—5.

Resembling *M. alcalina*, but no smell.

clavicularis, Fr. P. 1—2 cm. exp. striate, dry, not pelliculose, disc becoming depr. brownish, yellowish or pale; g. adnate, white; s. 4—5 cm. glabrous, viscid, whitish, base fibrillose; sp. — .

pelliculosa, Fr. P. 1—2 cm. convex, obtuse, finely striate, viscid pellicle separable, grey or brownish; g. rather fold-like; s. 3—4 cm. glabrous, viscid, livid; sp. — .

Differs from *M. vulgaris* in separable cuticle.

vulgaris, Pers. P. 5—8 mm. convex then depr. with central papilla, viscid brownish or grey with darker lines; g. decur. white; s. viscid, pale, fibrillosely rooting; sp. 5 × 2·5.

citrinella, Pers. P. 3—6 mm. viscid, camp. then exp. umb. yellow; g. uncinate, white; s. 2 cm. tough, viscid, yellow; sp. 6—8 × 4—5.

plicato-crenata, Fr. P. 1 cm. conical, subumb. coarsely plicate, edge crenate, pale yellow; g. white; s. 3—5 cm. viscid, tinged red or brownish, inside yellow; sp. — .

rorida, Fr. P. up to 1 cm. convex, umbil. sulcate, dry, pale ochre; g. subdecur. white; s. 3—4 cm. whitish, very glutinous; sp. — .

VIII. Basipedes. *Stem dry, base expanded into an orbicular disc or bubillose and strigose.*

stylobates, Pers. White. P. 2—3 mm. obtuse, striate, subpilose; g. free; s. 3—4 cm. filiform, glabrous, inserted on a plane, orbicular, downy, striate disc; sp. 4 × 2.

[**dilatata**, Fr. White. P. convexo-plane, obtuse, edge slightly striate; g. sublinear, connected into a collar; s. filiform, base orbicular, convex, glabrous.

var. *clavicularis*. P. greyish, disc subrotund.

tenerrima, B. White. P. 2—3 mm. convex, scurfy; g. free; s. 2—3 cm. minutely hairy below, fixed by a minute downy disc; sp. subgl. 3—4.

discopoda, Lév. White. P. 2—3 mm. conical, obtuse, with white meal; g. adnate, distant; s. 2—3 mm. mealy, expanding at base into a minute downy disc; sp. — .

saccharifera, B. & Br. Whitish. P. 2—3 mm. convex; g. arcuately decur. dusted with shining particles; s. 3—4 mm. filiform, minute disc fixed by filaments; sp. — .

var. *eclectica*, Buck. White. P. sulcate, and like gills and stem, sparkling with granules.

[**mammillata**, Pass. P. conico-campan. mammilate, sulcate, glabrous, shining white then greyish; g. adnate, broad; s. floccose below, base ending in a flat orbicular disc.

[**mucor**, Batsch. Minute, fugacious. P. plicate, grey; g. adnate, distant, greyish white; s. hyaline, white, inserted in an orbicular disc.

[**echinipes**, Lasch. Minute, white. P. camp. hyaline, striate; g. thick, distant; s. thickish, glabrous, base slightly bulbous, hairy.

pterigena, Fr. Pale rose colour. P. 1—2 mm. camp. obtuse; g. adnate, broad, distant; s. 4—6 mm. thin, wavy, smooth, ending in a radially strigose disc; sp. — .

[**trachelina**, Fr. P. brown, fibrillose; g. adnate, broad floccoso-fimbriate; s. villosely squamulose, bulbillose, strigosely rooting.

[**cyanorhiza**, Q. P. striate, greyish white; g. broad, whitish; s. greyish white, base somewhat swollen, hairy, blue.

IX. Insititiae. *Stem very slender, not rooting nor attached by a disc but penetrating the substratum abruptly. Gills adnate.*

corticola, Fr. P. 3—6 mm. obtuse, umbil. sulcate, blackish, brown, grey, &c.; g. adnate, broad; s. 1·5 cm. slender, incurved, minutely scurfy; sp. — .

hiemalis, Osbeck. P. 4—7 mm. camp. umb. striate, pinkish, rufescent, white, &c., often pruinose; g. narrow; s. 2—3 cm. curved, base downy; sp. 7—8 × 3.

Differs from *M. corticola* in narrow gills, and striate not sulcate pileus.

codoniceps, Cke. P. 2—3 mm. high and 1·5 mm. broad, pale umber, not exp. sulcate, delicately hairy; g. adnate; s. 4—7 mm. umber below; sp. 5 × 2·5.

setosa, Sow. White. P. 1 mm. obtuse, smooth, g. almost free; s. 2—3 cm. slender, covered with delicate spreading hairs; sp. — .

capillaris, Fr. White. P. 2 mm. camp. obtuse, then umbil.; g. adnate, few; s. 1·5—2·5 cm. hair-like, wavy, glabrous; sp. 7—8 × 4.

[**stipularis**, Fr. Very minute and delicate. P. convex subumbil. rosy, as are also the gills; s. downy, yellowish.

juncicola, Fr. P. 2—3 mm. striate, glabrous, rufescent or rosy; g. adnate, distant; s. 1—1·5 cm. glabrous, fuscous; sp. — .

COLLYBIA, Fr.

A. *Gills white or clear coloured, not grey; flesh white.*

I. STRIAEPEDES. *Stem stout, hollow or loosely stuffed, sulcate or fibrillosely striate.*

* *Gills white, rather distant.*

radicata, Relh. P. 3—7 cm. exp. gibbous, rugose, viscid, brownish ochre; g. distant, white; s. 10—18 cm. attenuated upwards, glabrous, rooting; 14—15 × 8—9.

longipes, Bull. P. 3—5 cm. exp. umb. dry, minutely velvety, pale brown; s. 8—12 cm. velvety, with a rooting base, brownish; sp. — .

Differs from *C. velutipes* in dry, velvety pileus.

velutiçeps, Rea. P. 3—6 cm. velvety, tawny; g. sinnato-adnate, deep ochre; st. 4—7 cm. fusiform, striate, slightly velvety, with rhizomorphic mycelium; sp. 7—8 × 3—4.

Caespitose.

[**elevata**, Weinm. P. tough, exp. subfibrillose, umbo evanescent, greyish white, shining, floccosely scaly; g. shining white then dingy; s. long, striate, abruptly rooting.

platyphylla, Fr. P. 6—10 cm. exp. obtuse, moist, fibrillosely virgate, brown or greyish; g. truncate behind, white; s. 7—10 cm. striate, pallid, base abrupt, with cord-like strands of mycelium; sp. 9—10 × 6.

var. *repens*, Ach. P. depr.; s. hollow, compr. apex pruinose, rhizomorphic mycelium copious, anastomosing.

semitalis, Fr. P. 3—8 cm. exp. obtuse, glabrous, moist, sooty or livid ochraceous, pale when dry; g. white, blackish when bruised,

finally obscure; s. 2—4 cm. fibrillose, with a thin cartilaginous cuticle, brownish or grey; sp. 7—9 × 4—5.

[**lentiniformis**, Karst. P. convexo-plane, umbil. or depr. irreg. even, glabrous, rufescent; g. almost free, crowded, white then spotted black; s. apex thickened and silky, whitish, blackish when bruised; sp. 10—11 × 4—6.

Resembling *Lentinus cochleatus* in form and colour.

[**concolor**, Del. White then tan. P. umboniform then exp. even, rarely scaly; g. adnexed, pallescent; s. solid, equal, glabrous.

[**loripes**, Fr. Caespitose. P. exp. flexuose, lax, yellowish rufous, even, glabrous; g. white then sulphur yellow; s. pallid, flexuous, fibrillosely striate.

[**aerina**, Q. P. flexuous, tomentose, coppery olive; g. distant, yellow; s. striate, orange yellow.

fusipes, Bull. P. 3—7 cm. exp. umbo at length disappearing, rufous or dingy tan, often cracked; g. adnexed, white then dingy; s. 7—10 cm. ventricose, grooved, rooting, glabrous, cartilaginous; sp. 5—6 × 3—4.

Tufted. Edible.

var. *oedematopa*, Schaeff. Subcaespitose, p. conical then flattened, rufous bay; g. pallid; s. ventricose, fibrillosely pulverulent.

var. *contorta*, Bull. Caespitoso-connate, pileus and twisted stem thinner; g. crowded, white.

lancipes, Fr. P. 5—7 cm. exp. umb. radiately rugulose, margin striate, pale flesh colour then pallid; g. connected by veins, tinged flesh colour; s. 4—6 cm. striate, narrowed towards rooting base; sp. — .

Differs from *C. fusipes* in rugulose pileus, and in growing singly.

mimica, W. G. Sm. Smell strong, fishy. P. 2—3 cm. obtuse, with separable cuticle, dingy ochraceous, as are the broad g.; s. narrowed towards base, ochraceous, 4—5 cm.; sp. 8 × 4—5.

* * *Gills crowded, narrow.*

maculata, A. & S. White; P. 5—10 cm. obtuse, compact, becoming spotted with rust colour; g. free, closely crowded; s. 7—12 cm. more or less ventricose, grooved, narrowed below, spotted rusty; subgl. 4—6.

var. *immaculata*, Cke. Not becoming spotted; g. minutely serrulate.

var. *scorzonera*, Batsch. Smaller, yellowish, stem long, rooting, often wavy; g. yellowish.

[**serpentina**, Otth. P. campan. yellowish white, glabrous, somewhat shining, whitish, edge involute, white-fibrillose; g. crenulate, whitish, becoming tinged red; s. whitish, striate, silky shining, hollow, ending in a long contorted serpentine root running amongst leaves.

prolixa, Fl. Dan. P. 7—10 cm. lax, exp. gibbous, even, glabrous, tawny or brick red tinge; g. free, crowded, narrow, not

spotted; s. solid, subequal, not rooting, sulcate, brick-red, 7—9 cm.; sp. 8—9 × 5.

distorta, Fr. P. lax, 6—8 cm. exp. umb. glabrous, even, bay then pale; g. narrow, much crowded, soon spotted red; s. 6—8 cm. narrowed from ventricose base, sulcate, more or less twisted, pallid; sp. 6—7 × 4.

butyracea, Bull. P. 4—7 cm. exp. umb. even, glabrous, moist and shining, reddish brown then pallid, flesh whitish; g. crenulate; s. 5—8 cm. conical, striate, rufous; sp. 7—9 × 4—5.

var. *bibulosa*, Mass. P. dingy olive at first.

var. *aurorea*, Larb. P. thinner, edge striate, flesh rufescent; s. hollow.

[**funicularis**, Karst. (= *Coll. dryophila*, var. *funicularis*, Fr.). P. rufous then pale, even; g. sulphur then pale; s. sulcate, apex thickened, curved, yellowish white; sp. 6 × 2—3.

[**phaeopodia**, Fr. P. exp. even, glabrous, moist, umbo evanescent, flesh brownish, fuscous brown; g. white; s. blackish brown, thickened at both ends.

[**epipphia**, Fr. P. discoid, viscid, striate to middle; g. white, connected by veins; s. narrowed upwards, striate, white.

[**asema**, Weinm. P. thin, umb. hygr. livid, whitish when dry, flesh watery, horny-grey near gills; g. crowded, entire, whitish; s. striate, livid.

stridula, Fr. P. soft, soon exp. even, moist, hygr. blackish then pale; g. arcuato-adnexed, white; s. fibrilloso-striate, livid brown.

Distinguished from *Trich. melaleucum* by the dark stem.

[**pulla**, Schaeff. P. campan.-exp. obtuse, even, glabrous, hygr. purple bay then pallid fuscous; g. transversely pellucidly striate, whitish; s. twisted, soft.

xylophila, Fr. P. 4—7 cm. lax. campan. then exp. gibbous, disc brownish tan, rest paler; g. adnate, very narrow, much crowded; s. 4—5 cm. subflexuous, fibrillose, whitish; 4 × 2·5.

Caespitose. *C. confluens* and *C. ingrata* differ in downy stem.

[**jurana**, Q. P. thin, fleshy-buff colour, white floccose, margin crenulate; g. whitish tinged flesh colour; s. fibrillose, whitish.

[**ramosa**, Bull. Pure white. P. exp. disc depr. slightly striate; g. crowded; s. stuffed, subequal, rooting, glabrous.

[**strumosa**, Fr. White. P. wavy, glabrous, margin at first incurved and downy; g. crowded; s. hollow, equal, flexuous, surface crisped and wavy, striate.

[**globularis**, Weinm. White. P. globose, disc becoming plane and umbil., edge roundly incurved; g. adnate, crowded, broad; s. apex flocculose, base tomentose.

II. VESTIPEDES. *Stem thin, equal, fistulose or medullate, even, velvety, floccose or pruinose.*

* *Gills broad, rather distant.*

velutipes, Fr. 3—7 cm. exp. viscid, yellow, glabrous; g. yellowish; s. 5—10 cm. velvety, blackish brown below, rooting; sp. 7 × 3—3·5.

var. *rubescens*, Cke. P. tawny; g. ochraceous.

var. *lactea*, Q. P. white; g. broad; s. velvety.

laxipes, Fr. P. 1—2 cm. obtuse, glabrous, moist, whitish; g. distant; s. 6—12 cm. lax, stuffed, with rufous velvety down; sp. — .

Much smaller and slenderer than *C. velutipes*.

[**declinis**, Weinm. P. conico-campan. umb. moist, at length rivulose, pale fuscous; g. scarcely adnexed, pallid, edge floccoso-crenulate; s. white, apex flocculoso-pulverulent.

[**Benoistii**, Boud. Soft. P. convex then plane, rather hygr. dark purple-bay then paler, edge striate, pellucid; g. nearly free, whitish then tinged purple-bay; s. bay, apex paler and scurfy, pale flocculose; flesh coloured.

floccipes, Fr. P. 1—2 cm. convex, umb. even, sooty brown then pale; g. thick; s. 3—5 cm. whitish and rough with minute black points, rooting; sp. — .

[**trochila**, Lasch. P. convex, glabrous, umbilicately depr. discoid, hyalino-striate, pallid fuscous; g. adnate, narrow; s. long, rigid, blackish brown.

vertiruga, Cke. P. 1—2 cm. subpulverulent, exp. dull brown or grey, radially wrinkled; g. adnate; s. 4—6 cm. tawny, minutely velvety, base strigose; sp. — .

Differs from *C. stipitaria* in adnate gills and dingy pileus.

stipitaria, Fr. P. 1—1·5 cm. exp. umb. velvety-squamulose, whitish with brown fibrils; g. ventricose; s. 2·5—5 cm. bay, fibrillose or hairy; sp. — .

[**Sobolewski**, Weinm. P. thin, hemispher. obtusely umb. white-pulverulent, shining white then tinged rosy; g. free; s. slender, tinged fuscescent, shining, white-fibrillose.

[**alumna**, Schum. White. P. thin, globose-campan. exp. glabrous, striate; g. adnate, broad; s. subulate from thickened base, downy below.

Habitat on fungi like *C. tuberosa*, from which it differs in adnate gills.

** *Gills very narrow, closely crowded.*

hariolorum, Bull. P. 2—5 cm. exp. glabrous, dingy tan; g. white then pallid; s. 5—7 cm. narrowed upwards, rufescent, woolly-hirsute; sp. 6—7 × 3—4.

confluens, Pers. P. 2—4 cm. obtuse, flaccid, glabrous, rufescent then pallid; g. closely crowded; s. 6—12 cm. more or less compressed, rufous, everywhere with white down; sp. subgl. 7—9.

Differs from *C. hariolarum* in densely tufted habit.

ingrata, Schum. P. 2—3 cm. convex, umb. even, brownish tan; g. free, pallid; s. 5—10 cm. twisted, subcompressed, with white meal above, umber and naked below, equal; sp. — .

[**lilacea**, Q. Subtomentose, lilac; p. thin, hoary; g. amethyst; s. slender, base with white down.

[**lupuletora**, Weinm. P. exp. depr. even, glabrous, livid or pale tan then pallid; g. adnate, crowded, white; s. not rooting, white and pulverulently scaly above, brownish, glabrous, and narrowed below.

[**foetidissima**, Gill. Smell extremely foetid. P. convex, umbil. wavy, yellowish white; g. whitish; s. white.

[**orbicularis**, Secr. P. exp. umb. brown, disc with small viscid blackish warts; g. adnexed, crowded; s. rufescent with white meal.

[**myosura**, Fr. P. orbicular, exp. obtuse, rufous, becoming pale; g. free, much crowded; s. rufescent, apex powdered, root long, glabrous.

conigena, Pers. 1—2 cm. exp. subumb. glabrous, reddish-yellow or pale; g. free, much crowded, pallid; s. 3—7 cm. pulverulent, pallid, base strigose, rooting; sp. 4—5 × 3.

Differs from *C. tenacella* and *C. esculenta* in free, crowded, narrow gills.

var. *lutea*, Vogl. P. yellow; g. densely crowded, white.

cirrhata, Fr. 1—1·5 cm. exp. at length umbilicate, silky, opaque, white; g. adnate; s. 2—5 cm. slender, wavy, whitish, with a downy root; sp. 4—5 × 2—3.

Differs from *C. conigena* in adnate gills, and from *C. tuberosa* in downy rooting stem not springing from a sclerotium.

tuberosa, Bull. P. about 1 cm. white, exp. umb. even; g. adnate; s. 1·5—4 cm. thin, white, root glabrous and springing from a sclerotium; sp. 4—6 × 2—3.

racemosa, Pers. P. up to 1 cm. convex, papillate, grey, subtomentose; g. adnate; s. 3—5 cm. base dark, springing from a blackish sclerotium; several minute stems with abortive pilei often spring from the stem; sp. — .

III. LAEVIPES. *Stem thin, equal, fistulose, naked, glabrous (except base), not conspicuously striate.*

* *Gills broad, lax, usually more or less distant.*

collina, Scop. P. 2—5 cm. exp. umb., brownish then pale; g. adnexed then free; s. 6—10 cm. equal, even, glabrous, base abrupt, downy; sp. — .

thelephora, Cke. and Mass. P. 2—3 cm. camp. lax, umb. apiculate, dingy ochraceous, disc darker; g. adnate; s. 6—10 cm. equal, hollow, glabrous, base dark; sp. 9 × 7.

ventricosa, Bull. P. 2—3 cm. camp. umb. glabrous, pale tan; g. with rufous tinge; s. 6—10 cm. rufescent, base ventricose, rooting; sp. — .

Differs from *C. dryophila* in ventricose, rooting stem.

leucomyosotis, Cke. Strong scented, rather fragrant. P. 2—3 cm. exp. grey then paler; g. adnate, sinuate, white; s. 8—12 cm. equal, brittle, pallid; sp. 6 × 4.

Stevensoni, B. and Br. P. 1—1·5 cm. obtuse, viscid, pale yellow; g. broadly adnate, broad, white; s. 2—3 cm. rufous, equal, fibrillose, rooting; sp. 10—11 × 7—8.

Differs from *C. esculenta* in broad, adnate gills.

psathyroides, Cke. Ivory white. P. 1·5—2 cm. broad and nearly 2·5 cm. high, camp. obtuse, rather viscid; g. broadly adnate, broad; s. 6—10 cm. equal, straight, hollow; sp. 15 × 7.

xanthopoda, Fr. P. 2·5 cm. exp. umb. glabrous, lax, yellow or tan colour then pale; g. truncate behind; s. 6—10 cm. equal, hollow, tough, glabrous, yellowish, strigosely rooting; sp. — .

Differs from *C. dryophila* in umbo, broad gills, and strigosely rooting stem.

nitellina, Fr. P. 2—4 cm. exp. even, shining, tawny, hygroph.; g. adnate, white then tinted; s. 5—8 cm. equal, rigid, glabrous, tawny; sp. — .

succinea, Fr. P. 2—2·5 cm. even, exp. then subdepressed, pale rufous, often cracked; g. adnexed, broad, thickish, serrulate; s. 2—4 cm. polished, rufescent, not rooting; sp. — .

Differs from *C. dryophila* by broader, thicker, less crowded gills, and from *C. xanthopoda* by absence of an umbo.

nummularia, Bull. P. 2—3 cm. exp. subdepressed round small umbo, pallid; g. free; s. 3—5 cm. glabrous, pallid, apex thickened; sp. — .

esculenta, Wulf. P. 1—2 cm. orbicular, exp. obtuse, glabrous, pallid tan; g. adnate, lax, whitish; s. 2·5 cm. indistinctly hollow, even, polished, yellowish tan, rooting, base glabrous; sp. — .

C. tenacella differs in fibrillose rooting base, and snow-white gills.

tenacella, Pers. P. 1·5—2 cm. exp. subumb. even, glabrous, brownish then pale; g. broad, snow-white; s. 5—10 cm. narrowly fistulose, straight, even, glabrous, tawny, long root strigose; sp. 5—6 × 3.

var. *stolonifer*, Jungh. P. springing from a long, creeping, cord-like mycelium.

eustygia, Cke. Smell of rancid meal. P. 2—4 cm. exp. subdepr. often wavy, whitish, shining when dry; g. dark grey; s. 4—7 cm. white above and sprinkled with pointed scales; darker below, rooting; sp. subgl. 4—5.

[**rhodella**, Pat. P. thin, convexo-plane, reddish-brown, disc

rugulose, edge striate; g. adnate, distant, white, tinged pink; s. tinged brown, twisted, wavy.

retigera, Bres. P. 3—6 cm. campan.-exp. umb. dry, glabrous, fuscous-grey then pale, centre somewhat tawny, raised veins forming a network on the surface; g. broad, edge paler, fimbriate; s. 4—6 cm. pallid, whitish fibrillose, often compressed, somewhat rooting; sp. — .

[**plumipes**, Kalchb. P. campan. exp. subumb. slightly innato-fibrillose, livid fuscous, shining; g. broad, white; s. glabrous, white, base fibrilloso-strigose.

Differs from *C. conigena* in glabrous s. and broad g.

[**planipes**, Brig. Caespitose. P. orbicular, exp. rather viscid, bay; g. free; s. colour of p., rooting.

[**Gussonei**, Inzeng. P. convex, subumb., rather striate, brick-red, edge dingy yellow; g. adnate, broad, crimson; s. compr. ochre with a crimson zone.

** *Gills narrow, crowded.*

acervata, Fr. Caespitose. P. 4—7 cm. exp. obtuse, then umb., reddish then pale; g. free, narrow, closely crowded; s. 4—9 cm. equal, glabrous, rufous, base downy, rooting; sp. 7—8 × 3·5.

Differs from *C. confluens* in glabrous stem, and from *Marasmius erythropus* in narrow, closely crowded gills.

dryophila, Bull. P. 2·5 cm. obtuse, then subdepr. reddish or pale tan, even; g. sinuate, crowded, narrow; s. 2—4 cm. hollow, glabrous, rufescent or yellowish; sp. 7—8 × 4.

aquosa, Fr. Every part honey-colour. P. 2—2·5 cm. obtuse, hygr. margin striate; g. rounded and free, crowded; s. 3—6 cm. polished, surface slightly wavy; sp. 6 × 4.

var. *Bulliardii*. P. reddish ochre then pale; s. tawny.

extuberans, Fr. P. 2—3·5 cm. exp. umb. prominent, bay or umber; g. crowded, narrow; s. 4—7 cm. equal, straight, glabrous, pallid, rooting; sp. — .

exsculpta, Fr. P. 2—4 cm. exp. umbilicate, persistently tawny brown; g. closely crowded, sulphur-yellow; s. 2—3 cm. yellow; sp. — .

[**luteifolia**, Gill. P. exp. edge lobed, irreg. reddish or cinnamon; g. sulphur yellow; s. glabrous, colour of p.

[**cinnamomaeifolia**, Gill. P. convex, subdepr. with a slight umbo, whitish yellow; g. crowded, pale cinnamon; s. reddish.

macilenta, Fr. Entirely yellow. P. 2—2·5 cm. obtuse, even, glabrous; g. linear: s. minutely fistulose, glabrous, tough, rooting, 2—3 cm.; sp. 5—6 × 3.

clavus, L. P. 2—6 mm. obtuse, even, orange red, shining; g. crowded, white; s. 1·5—2·5 cm. very slender, whitish, glabrous; sp. 4 × 2·5.

Mycena acicula differs in yellow gills and rooting stem.

ocellata, Fr. P. 1—1·5 cm. exp. disc depr. round pale small umbo, rufous or yellowish; g. crowded, white; s. 3—5 cm. slender, tough, glabrous, tinged fuscous, base rooting, fibrillose; sp. — .

Distinguished from *C. cirrhata* by glabrous stem.

[**floridula**, Fr. P. exp. obtuse, slightly striate, tinged flesh colour then pale; g. pale rose colour; s. pellucid, white.

[**Micheliana**, Fr. Pure white. P. obtuse, margin slightly striate; g. adnexed, crowded; s. thin, glabrous, base slightly thickened.

muscigena, Schum. Pure white. P. 2—4 mm. obtuse, even; g. adnate; s. 1·5—2·5 cm. very slender, wavy, equal, glabrous; sp. — .

Known from small sp. of *Mycena* by the broadly adnate gills and even pileus.

[**ludia**, Fr. Pure white. P. subumb. exp. revolute, undulate and irreg. lobed, even; g. rather distant; s. slender, wavy, naked, root creeping, branched, fibrillose.

B. *Gills grey.*

IV. Tephrophanae. *Brown or greyish.*

* *Gills crowded, rather narrow.*

rancida, Fr. Smell strong. P. 2—5 cm. umb. dusky grey with a white silkiness; g. free, narrow, grey; s. 7—12 cm. glabrous, grey, rooting; sp. 7—10 × 4—5.

Distinguished among strong-smelling species by the rooting stem.

[**ignobilis**, Karst. P. plane, subdepr. edge spreading, livid, hoary, pale when dry; g. crowded, dingy pallid; s. livid, floccosely pruinose; sp. 7—8 × 4.

[**daemonica**, Karst. P. convex then exp. subumb. glabrous, rather virgate, livid fuscous, disc blackish, pale when dry; g. adnate, crowded, smoky, blackish when bruised: s. equal, glabrous, wavy, fibrillosely striate, pallid, apex white flocculose; sp. 8—10 × 4—5.

coracina, Fr. Smell strong. P. 2—3 cm. exp. naked, hygr. brownish then grey; g. greyish-white; s. 2—3 cm. hollow, rigid, not rooting, brown, apex mealy-squamulose; sp. — .

Differs from *C. rancida* in the short stem thickened at base, and not rooting; *C. ozes* differs from present in long, slender, flexuous stem.

ozes, Fr. Smell strong. P. 3—5 cm. exp. umb. naked, glabrous, hygr. margin striate, greyish brown; g. adnexed, grey then olive; s. 6—10 cm. subflexuous, slender, fragile, slightly striate, grey, apex with white meal; sp. — .

C. rancida differs in free gills and rooting stem.

[**mephitica**, Fr. Smell strong. P. exp. subumb. even, adpressedly innately silky, whitish; g. obtusely adnate, crowded, whitish; s. filiform, obsoletely fistulose, tough, grey, pruinosely velvety.

inolens, Fr. P. 2—5 cm. exp. umb. glabrous, livid or pale tan; g. adnexed, greyish-white; s. 5—9 cm. livid, undulate, base white-strigose, apex white squamulose; sp. 7—8 × 4—5.

C. plexipes and *C. protracta* differ in having the stem glabrous at the apex.

plexipes, Fr. P. 2—4 cm. camp. rather rugulose, slightly striate, glabrous, sooty; g. free; s. 5—7 cm. livid, silky fibrillose, rooting; sp. 8—9 × 5.

Differs from *C. protracta* in free gills.

[**miser**, Fr. P. subumb. glabrous, margin striate; g. adnate, grey; s. fuscous, apex mealy.

[**atramentosa**, Kalchb. P. exp. subumb. rugulose, livid then sooty, flesh black; g. narrow, becoming blackish; s. naked, colour of p.

[**fuliginaria**, Weinm. P. fuscous, with down; g. glaucous; s. fuscous, flocculose.

atrata, Fr. P. 2—3 cm. pitch-black then brown, even, exp. or depr. margin arched; g. adnate; s. 2—2·5 cm. even, glabrous, brown outside and inside; sp. — .

ambusta, Fr. P. 1—2 cm. exp. papillate, slightly striate, glabrous, livid brown; g. adnate, tinged fuscous; s. 1·5—2 cm. somewhat stuffed, tough, livid; sp. 5—6 × 3—4.

Differs from *C. atrata* in umbonate pileus.

** *Gills very broad, more or less distant.*

lacerata, Lasch. P. 2·5—3·5 cm. camp. moist, streaked dark brown on pale ground; g. adnexed, broad, thick, greyish; s. 5—9 cm. twisted, fibrous, apex floccose; sp. — .

[**phalliodorus**, Alex. Foetid, convex, subumbilicate, at length lobed, dingy ochraceous; g. adnate, white; s. glabrous.

murina, Fr. P. 2—4 cm. exp. umbilicate, glabrous then rugulosely squamulose, dark brown then pale; g. slightly adnexed, broad; s. 5—7 cm. hollow, cylindrical, not rooting, grey; sp. 7 × 4.

Somewhat resembling *C. atrata*, differing in very broad almost free gills.

[**glacialis**, Fr. P. watery, fragile, obtuse, dusky fuscous then pale; g. free, grey; s. grey, naked.

protracta, Fr. P. 1·5—2 cm. exp. shining, disc fleshy, depressed, subpapillate, greyish brown, margin striate; g. broad, grey; s. 5—7 cm. glabrous, root long fibrillosely strigose; sp. — .

tesquorum, Fr. P. 1—1·5 cm. plane, obtuse, even, blackish then pale; g. free, greyish brown; s. 3—5 cm. thin, brown, apex pruinose; sp. — .

[**cessans**, Karst. P. exp. then depr. glabrous, striate, pallid fuscous then pale and hoary, sublubricous; g. adnate, then adnato-decur. connected by veins, whitish; s. solid, pallid, apex pruinose.

clusilis, Fr. P. 1—2 cm. exp. umbilicate, glabrous, hygr. livid then pale; g. arcuately adfixed, semicircular, broad; s. 2—4 cm. glabrous, pallid, not rooting; sp. — .

Differs from *C. tylicolor* and *C. nummularia* in umbilicate pileus, and decurrent tooth to gills.

[**erosa**, Fr. P. exp. striate, hygr. silky when dry, grey; g. broadly emarginate, greyish; s. greyish-white, glabrous.

tylicolor, Fr. P. 1—2 cm. exp. subumb. even, glabrous, bluish-grey, with white meal when young; g. free, distant, broad, grey; s. 2—3 cm. pulverulent, grey; sp. — .

Introduced species.

Dorotheae, B. P. 2 cm. globose then exp. subumb. dark brown then paler, sulcate, squarroso-setulose; g. white, distant; s. 5—6 cm. slender, minutely discoid at base, granulated like pileus and beset with white bristles.

caldarii, B. P. 1 cm. hemispherical, umb. brown, rugose; g. grey; s. 4—5 cm. pale grey, cartilaginous; sp. — .

MARASMIUS, Fr.

A. Collybia. *Margin of pileus incurved at first. Stem cartilaginous; mycelium floccose.*

I. Scortei. *Stem solid, or stuffed then hollow, fibrous inside; outside villose over the cartilaginous cortex. Gills becoming free.*

* *Base of stem strigosely woolly.*

urens, Fr. P. Acrid. 4—7 cm. exp. glabrous, even, pinkish buff, pale when dry; g. free, becoming brownish, at length remote; s. 5—7 cm. everywhere covered with white farinose down; sp. 8 × 4.

The acrid taste separates this sp. from *M. oreades*.

[**subannulatus**, Trog. P. plane or depr. even, yellowish; g. adnate, reddish then brownish; s. with an incomplete ring about the middle, base with white down.

peronatus, Fr. Acrid. P. exp. reddish brown, then tan colour, becoming lacunose, margin striate; g. adnexed, seceding, pallid then rufescent; s. 3—5 cm. villosely downy, lower portion coarsely strigose, yellowish; sp. 10 × 6—7.

porreus, Fr. Smell of garlic. P. 2—5 cm. dingy yellowish then paler, striate, disc even, flaccid; g. distant, firm, yellow then pale; s. 2—4 cm. reddish-brown, pubescent; sp. subgl. 4.

Differs from *M. prasiosmus* in yellowish gills and stem everywhere pubescent.

[**mulleus**, Fr. Mild. P. plane or depr. even, yellow brown then paler; g. citrin; s. bay towards fusiform rooting base, with a purplish tomentose ring.

[**Queletii**, Schulz. White. P. diaphanous, umb.; g. free, white; s. stuffed, with grey rooting mycelium.

[**foeniculaceus**, Fr. P. tough, convex-umb. then plano-depr. pallid then white; g. broad, thick, adnex. distant, whitish; s. fibrous, glabrous, base abrupt, with rufous fibres. Used as a condiment.

** *Base of stem naked, often formed of twisted fibres.*

oreades, Fr. P. 2—5 cm. subumb. glabrous, brownish then pale; g. free, broad, distant, pale; s. 3—6 cm. pallid, everywhere with a downy surface; sp. 8 × 5. Edible.

[**globularis**, Fr. P. globose campan. umb. hygrophanous, pellucidly striate; g. free, white then dingy; s. pulverulent, white.

plancus, Fr. P. 2—cm. pliant, plane or depr. even, rufescent then pale; g. narrow, tinged ochraceous-brown; s. 3—5 cm. with white down, base narrowed, naked; sp. — .

Differs from *M. oreades* in narrower, darker coloured gills.

[**pyramidalis**, Fr. P. umb. shining, dingy brown then pale; g. arcuately adnexed, white then reddish; s. narrowed upwards, flocculose, whitish, rooting,

scorteus, Fr. P. 1—1·5 cm. pallid, exp. obtuse, even, wrinkled; g. broad, distant, white; s. 2—4 cm. obsoletely hollow, equal, tinged fuscous, glabrous, apex slightly mealy; sp. 8 × 6.

Resembling *M. oreades*, but smaller and stem glabrous.

II. TERGINI. *Stem rooting, distinctly tubular, not fibrous, evidently cartilaginous. Gills becoming free.*

* *Stem woolly below, glabrous above.*

prasiosmus, Fr. Smell of garlic. P. 1·5—2 cm. pale yellow or whitish disc, often darker, wrinkled, g. adnexed; s. 4—7 cm. pallid and glabrous above, thickened and subtomentose below and brownish; sp. 14—15 × 7.

Differs from *M. porreus* in white gills and estriate pileus.

varicosus, Fr. P 1·5—3 cm. reddish brown, plane or depr. wavy, subumb. darker when dry; g. closely crowded, very narrow; s. 5—8 cm. reddish, with red juice, base with reddish down; sp. 4 × 3.

fuscopurpureus, Fr. 2—2·5 cm. exp. often umbilicate, purplish brown then pale; g. attached to collar then free, tinged reddish; s. 2·5—7 cm. dry, dingy purple, base with reddish down; sp. 4—3.

terginus, Fr. P. 1·5—2·5 cm. exp. obtuse, shining, reddish, then pale, striate at margin; g. narrow, free; s. 5—8 cm. glabrous, shining, pallid, reddish below with white down, rooting; sp. 6—7 × 4.

Much like *M. prasiosmus* and *M. porreus*, differing from both in absence of smell.

[**gelidus**, Q. P. campan. exp. thin, rugosely striate, pruinose, translucent; g. free, hyaline or tinged rose; s. filiform, striate, pruinosely-pubescent, base cottony, recurved; sp. 7—8.

[**putillus**, Fr. P. rufescent then tan; g. rufous, margin paler, entire; s. short, rufescent, abrupt base with white down.

[**carpathicus**, Kalchb. P. exp. subumb. rather viscid, brownish, hygr. edge striatulate; g. rotundato-adnexed, pallid; s. even, naked above, pallid, rest bay, white downy base rooting.

** *Stem (at least when dry) everywhere pruinosely velvety.*

Wynnei, B. and Br. P. 2·5—4 cm. soon plane, sub-umb. lilac-brown; g. adnexed, lilac; s. 3—6 cm. paler than p., scurfy; 7—8 × 4.

erythropus, Fr. P. 2—3 cm. obtuse, even, then rugulose, pallid; g. broad, lax, pallid, connected by veins; s. 5—8 cm. hollow, striate, glabrous, dark red, base with white down; sp. 8—10 × 5—6.

Differs from *Collybia acervata* by the broad distant gills.

[**dispar**, Fr. P. subumb. whitish, margin striate; g. nearly free, crowded, narrow; s. purplish-brown, pruinose, base with white down.

archyropus, Fr. P. 1·5—2·5 cm. plane or depr. glabrous, pallid; g. crowded, linear, pallid; s. 6—10 cm. rigid, straight, pale rufescent, coated with white down, base similar; sp. subgl. 4—5.

Differs from *M. terginus* in tufted habit, and from *M. prasiosmus* in absence of smell.

torquescens, Q. P. 1—1·5 cm. plane, rugosely striate, pallid; g. free; s. 4—5 cm. brown, minutely velvety, apex pale and glabrous; sp. 5 × 4.

impudicus, Fr. Smell foetid. P. 1·5—2·5 cm. rugulosely striate, reddish bay, then pale; g. tinged red then pale; s. 3—5 cm. equal, purplish, covered with white down when dry, base naked, rooting; sp. 8 × 4—5.

Differs from *M. foetidus* in free gills.

[**saxatilis**, Fr. P. depr. striate, reddish; g. adnate, white; s. glabrous, apex pruinose, reddish.

III. Calopodes. *Stem short, not rooting, entering matrix abruptly, often with a small floccose tubercle at base. Gills adnate then subdecur. when p. expands.*

* *Stem very glabrous upwards, shining, base simple.*

scorodonius, Fr. Smell of garlic. P. 1·5—2 cm. soon plane, dry, rufous then pale, wrinkled; g. adnate, whitish; s. 2·5—4 cm. equal, everywhere glabrous, shining, rufous; sp. 6 × 4.

calopus, Fr. P. 1—1·5 cm. exp. even then wrinkled, glabrous, whitish; g. emarginately adnexed; s. 2—2·5 cm. even, glabrous, bay, shining, not rooting; 7 × 4.

Habit of *M. scorodonius*, but no smell.

Vaillantii, Fr. P. 1·5—2·5 cm. depr. plicately rugose, whitish; g. broad, subdecurrent; s. 2—2·5 cm. glabrous, bay, apex paler and thickened; sp. 10 × 6.

M. impudicus differs in purplish stem with white down when dry. *M. foetidus* differs in strong smell.

angulatus, Fr. P. 1—1·5 cm. soon exp. at length folded and angular, whitish or tinge of tawny; g. distant; s. 2—3 cm. greyish rufescent, thickened at both ends; sp. 7 × 4.

Closely resembling *M. Curreyi* and *M. graminum*; differs from former in ventricose gills not attached to a collar; from the latter in the gills not being attached to a collar. *M. calopus* differs in the shining, bay stem.

[**Kirchneri**, Thurn. P. often umb. pallid whitish brown; g. subdecur. distant, whitish fuscous; s. filiform, glabrous, brown.

languidus, Fr. P. 1·5—2 cm. umbil. flocculose, rugosely sulcate, whitish tinged yellow or flesh colour; g. narrow; s. 2—3 cm. thickened upwards, pale, naked, base tawny; sp. 6—7 × 4.

rubricatus, Mass. P. up to 1 cm. soon plane, whitish tinged red; g. adnexed, white then brownish; s. 1—2 cm. slender, incurved, hollow; sp. 6 × 3.

** *Stem velvety pruinose, base subtuberculose.*

foetidus, Fr. Foetid. P. 2—3 cm. exp. and umbil. or wavy, striato-plicate, tawny bay or rufous, pruinose when dry; g. rufescent with a yellow tinge; s. 2—3 cm. hollow, bay, minutely velvety; sp. 7 × 4.

inodorus, Pat. P. thin, exp. reddish brown with adpr. silky down; g. adnate, crowded, whitish; s. blackish red, apex pale, entirely covered with white bloom.

Differs from *M. foetidus* in absence of smell.

[**xerotoides**, Tr. P. umbilicate, umber, striate; g. broadly adnate, becoming greyish; s. velvety, base thickened, strigose.

[**lagopinus**, Fr. P. convex, even, glabrous, pallid; g. adnate, pallid; s. pallid, white floccose half way up, apex naked.

amadelphus, Fr. P. 3—4 mm. soon plane, disc slightly pruinose, margin at length striate, pale reddish-yellow; g. broadly adnate, broad; s. pallid, bay below, slightly pruinose 1—1·5 cm.; sp. 4 × 2·5.

var. *insignis*. G. very distant, pale umber.

ramealis, Fr. P. 2—4 mm. opaque, rugulose, not striate, white, disc often tinged rufescent; g. rather distant, narrow, white, adnate; s. 1 cm. white, mealy, base darker; sp. 4 × 2.

candidus, Bolt. Entirely white. P. up to 0·5 cm. pellucid, wrinkled, naked; g. adnexed; s. 1—2 cm. whitish, slightly pruinose, base tinged brownish; sp. 4 × 2.

B. Mycena. *Stem horny, fistulose but often with a pith, tough, dry, mycelium rhizomorphoid, cortex not floccose. edge of pileus straight and adpressed to stem at first.*

I. Chordales. *Stem rigid, rooting, or adnate by a dilated base.*

alliaceus, Fr. Smell of garlic. P. 2·4 cm. subumb. even then striate or sulcate, greyish; g. free; s. 6—10 cm. minutely velvety, blackish; sp. 14—16 × 8.

molyoides, Fr. Smell somewhat unpleasant. P. soon plane, even, brownish then pale; g. free, crowded, white; s. tall, hollow, glabrous, blackish brown.

[**chordalis**, Fr. P. plicate, brownish; g. adnato-decurrent, white; s. elongated, straight, velvety, blackish brown, stuffed, rooting.

cauticinalis, Fr. P. about 1 cm. yellowish, even then striato-sulcate; g. adnato-decur. connected by veins, yellow; s. 3—6 cm. flocculose, bay, paler and mealy upwards; sp. 7 × 3—5.

[**schizopus**, Secr. P. very thin, campan. plicato-sulcate, whitish; g. thick, distant, white, with a collar; s. whitish, base a darker dilated tubercle.

[**torquatus**, Fr. P. campan. sulcate, whitish; g. thick, attached to a collar; s. whitish, with a darker tubercular dilated base.

II. Rotulae. *Stem filiform, flaccid, base entering matrix abruptly.*

* *Stem very glabrous, shining.*

rotula, Fr. P. 4—7 mm. umbilicate, plicate, whitish or disc slightly tinged; g. attached to a free collar encircling the stem; s. 2—4 cm. glabrous, blackish, shining; sp. 6 × 3—4.

[**littoralis**, Q. P. umbil. plicate, white; g. free, distant; s. horny, umber, apex pale, base downy.

graminum, Berk. P. up to 1 cm. umb. striate or sulcate, pale rufous, disc darker; g. attached to a collar encircling stem, few in number; s. 2—4 cm. black, shining, glabrous, apex paler; sp. subgl. 3—4.

[**epodius**, Bres. P. convexo-campan. exp. usually umb. and depr. edge at first incurved, sulcate, centre usually reticulated, reddish-yellow then pale; g. free, white then yellowish; s. very glabrous, rufescent then bay, apex hyaline, base bulbillose substrigose; sp. 20—28 × 2·5—4.

[**Menieri**, Boud. P. 1—3 mm. excentric, broadly subumb. punctulate tawny; g. fold-like, few, branched, paler than p.; s. curved, tawny, base black; sp. 18—25 × 5—7.

[**faveolaris**, Fr. P. sulcate, exp. disc coloured; g. attached to a ring, anastomosing to form cells; s. glabrous, subulate, bay below.

androsaceus, Fr. P. 1—1·5 cm. whitish, umbilicate striate; g. adnate to stem; s. 3—6 cm. black, glabrous, polished; sp. 7 × 3—4.

[**sclerotipes**, Bres. P. thin, convex, edge incurved then plane, ruguloso-striate, shining white, umbil. yellowish, subflocculose; g. distant, adnate, white, edge fimbriate; s. filiform, tinged rufescent downwards, adnate to a rufescent sclerotium.

Passed as *Collybia cirrhata* very frequently. The latter differs in not springing from a sclerotium. *Collybia tuberosa* differs in growing on fungi.

[**Bulliardi**, Q. P. plicate, dingy yellow brown; g. whitish; s. bay.

splachnoides, Fr. Inodorous. P. up to 1 cm. whitish, subumbilicate, striate; g. subdecurrent; s. 2—4 cm. polished, reddish-brown; sp. 8 × 5.

Similar in habit to *M. perforans*, but no smell, and white subdecurrent gills.

[**limosus**, Q. Very minute. P. plicate, diaphanous, whitish; s. capillary, brownish.

flosculus, Q. P. white, umbil. sulcate; g. adnate, white; s. short, incurved, bay, apex pale.

Curreyi, B. & Br. P. up to 1 cm. pale rufous, coarsely striate, umb. tawny; g. attached to collar; s. 2—3 cm. polished, blackish, apex white; sp. 9 × 5—6.

** *Stem velvety or pilose.*

perforans, Fr. Foetid. P. up to 1 cm. whitish or tinged rufous, plane, not striate, rugulose; g. adnate; s. 2—3 cm. minutely velvety, blackish brown; sp. 4 × 3.

insititius, Fr. Inodorous. P. 1—1·5 cm. subumbilicate, at length plicate, pale yellow-brown then whitish; g. broadly adnate, simple, unequal, distant; s. 2—3 cm. floccose or scurfy, reddish-brown; sp. 4 × 2·5.

Hudsoni, Pers. P. 2—3 mm. rugulose, tinged brown, covered with spreading purplish hairs; g. white; s. 1—1·5 cm. with hairs like the pileus; sp. 5 × 3.

[**buxi**, Fr. P. sulcate, minutely squamulose, tawny; g. few; s. blackish purple, pilose below, glabrous above.

epichloe, Fr. P. 4—5 mm. plane, papillate, even, whitish, disc darker; g. broadest behind; s. 2—3 cm. bay, coarsely striate, striae setulose; sp. 3 × 2.

actinophorus, B. & Br. P. 2—3 mm. umbilicate, pale bay with

darker radiating lines, wrinkled when dry; g. adnexed; s. 1—2 cm. paler than pileus; sp. subgl. 3—4.

saccharinus, Batsch. P. 2—4 mm. subpapillate, glabrous, sulcate, whitish; g. broadly adnate, connected by veins; s. 1·5—2·5 cm. reddish, minutely flocculose, then almost glabrous; sp. 5 × 3.

Resembling *M. polyadelphus*, but not clustered, and papillate pileus.

epiphyllus, Fr. P. 4—6 cm. umbilicate, wrinkled, white; g. adnate, distant, veined; s. 3—5 cm. bay, minutely velvety, apex pale; sp. 3 × 2.

C. Apus. *Pileus sessile, resupinate.*

spodoleucus, B. & Br. P. 4—5 mm. shell-shaped, resupinate, sessile, grey, slightly pulverulent; gills few, white.

[**recubans**, Q. P. hemisph. sulcate, white; g. white; s. capillary, villose, brown.

LACTARIUS, Fr.

* *Milk yellow, acrid.*

[**resimus**, Fr. P. fleshy, umbil. then infundib. even, glabrous, viscid, white or pallid, edge incurved and tomentose then spreading and naked; g. decur. white; s. stout, hollow, villose; milk soon sulphur colour; sp. 8—10 × 6—7.

scrobiculatus, Scop. P. 10—20 cm. yellowish, depr. zoneless, incurved margin fibrillose; g. decur. whitish; s. 4—8 cm. stout, yellow, pitted; milk soon sulphur yellow; sp. subgl. echin. 7—8. (10—12 × 8—9 Sacc.)

chrysorrheus, Fr. P. 4—6 cm. umbil. then infundib. pale yellowish flesh colour, zoned; g. yellowish; s. white, 3—4 cm.; milk white then golden yellow; sp. 6—7.

intermedius, Kromb. P. 10—14 cm. infundib. viscid, ochraceous, incurved margin tomentose at first; g. decur.; s. 3—5 cm. stout, yellowish, pitted; milk soon yellowish; sp. — .

Differs from *L. scrobiculatus* in infundibuliform pileus.

theiogalus, Bull. P. 3—6 cm. depr. viscid, tawny rufous; g. pale rufescent; s. 3—5 cm. colour of p.; milk white then sulphur yellow, becoming acrid; sp. 7—8.

Agrees with *L. chrysorrheus* in yellow milk, but differs in tawny rufous stem.

** *Milk violet.*

† *Milk acrid.*

aspideus, Fr. Dingy straw colour. P. 5—9 cm. zoneless, convex then depr. at first with white down; g. narrow, thickish;

s. 5—7 cm. glabrous, dry; milk white soon becoming lilac; sp. echin. 8—10.

Differs from *L. uvidus* in narrow gills.

uvidus, Fr. P. 3—7 cm. thin, depr. zoneless, dingy tan; g. broad, white; s. 5—8 cm. viscid, pallid; milk white soon lilac; sp. 9—10. (5—6 Sacc.)

[**flavidus**, Boud. P. exp. viscid pale primrose yellow; g. whitish; s. solid, white with yellow tinge; milk white then deep violet; sp. 6—7.

†† *Milk sweet.*

[**violascens**, Fr. P. depr. glabrous, grey with darker zones; g. white; s. solid, greyish white; milk violet.

*** *Milk reddish, saffron, or brownish.*

† *Milk acrid.*

deliciosus, Fr. P. 7—12 cm. convex, umbil. dusky orange, zoned; g. subdecurrent, orange; s. 3—6 cm. smooth; milk saffron red; sp. 9—10 × 7—8. Every part becoming red then greenish when bruised; sp. 7—10. Edible.

[**flammeolus**, Fr. P. subumb. not zoned, flame coloured; g. adnate, yellow; s. hollow, pale orange; milk reddish, slowly acrid.

Differs from *L. mitissimus* in red milk.

acris, Fr. P. 6—7 cm. soon infundib. viscid, sooty grey; g. pale yellow; s. often excentric, pallid, narrowed below; milk white then reddish; sp. 8—9 × 6—8.

fuliginosus, Fr. P. 4—9 cm. soon depr. obtuse, even, at first with sooty-brown powder, then naked and greyish tan; g. adnate, white then tan; s. 6—8 cm. stuffed, naked, greyish tan; milk and flesh white then reddish-yellow; sp. 8—9.

Distinguished from allies by pileus not being velvety.

[**fuscus**, Roll. Caespitose, scented. P. exp. and slightly depr. round the umb. edge grooved, fibrillose or squamulose, sooty grey or dingy violet, often zoned; g. forked, pallid then ochre; s. firm ochre or tinged red, pruinose.

[**argematus**, Fr. White. P. thin, exp. glabrous, edge even; g. adnate, crowded; s. stuffed, short, glabrous; milk slowly acrid, white then rufescent.

†† *Milk mild.*

retisporus, Mass. P. 5—8 cm. depr. smoky brown, velvety, radially rugulose, minutely velvety; g. deeply sinuate, pale ochre; s. 3—5 cm. glabrous, paler than p.; milk white then brown; sp. globose, 10—11, with a raised network.

Close to *L. ligniotus*, differing especially in the spores.

[**sangifluus**, Fr. P. depr. even, not zoned, blood-red; s. narrowed upwards, paler; g. thin, white; milk blood-red; sp. 10.

**** *Milk becoming grey.*

vietus, Fr. P. 3—5 cm. subumb. then plane and umbil. flesh colour, pale and silky when dry; g. subdecurrent; 4—6 cm. soon hollow, livid; milk white then grey, becoming acrid; sp. 7—8.

[**musteus**, Fr. P. convex then depr. zoneless, very viscid when moist, gilvous then pallid; g. closely crowded, whitish; s. short, whitish; milk scanty, slightly acrid, whitish then grey, as is the flesh when cut; sp. 6—9.

***** *Milk becoming glaucous-green.*

glaucescens, Crossl. P. 4—6 cm. whitish, depressed, flesh thick; g. adnate, narrow, pallid; s. 2·5—3 long by 1·25 thick, whitish; milk white then glaucous-green; sp. echinulate, 6—7 μ.

****** *Milk persistently white.*

† *Milk mild.*

§ *Gills rufescent or yellowish.*

volemus, Fr. P. 6—10 cm. rigid, depr. obtuse, dry, glabrous, golden tawny at length minutely broken up; g. decur. crowded, yellowish; s. 5—9 cm. solid, stout, coloured like p. pruinose; milk white; sp. 5—6. Edible.

ichoratus, Batsch. P. 6—10 cm. thin, depr. even, glabrous, wavy, tawny, zoned; g. adnate, white then ochre; s. 3—7 cm. glabrous, tawny; milk white; sp. 8—10 × 6—7.

Differs from *L. volemus* in zoned p. and in being altogether more slender. *L. tithymalinus* differs in acrid milk and pinkish gills.

mitissimus, Fr. P. 2·6 cm. depr. papillate, dry, even, zoneless, deep orange, shining; g. crowded, paler than p.; s. 3—6 cm. hollow, orange; milk white; sp. 6—8 × 5—6.

Differs from *L. subdulcis* in bright orange, shining p., and copious milk.

quietus, Fr. Smell oily. P. 5—8 cm. depr. viscid at first, reddish cinnamon, pale and rather silky when dry; g. paler than p.; s. 5—8 cm. colour of p. glabrous; milk white; sp. 8—10 × 6—7.

serifluus, Fr. P. 2—5 cm. plane then depr. rather wavy, glabrous, not zoned, tawny brown, margin incurved; g. crowded, yellowish; s. 2—4 cm. slightly incurved, paler than p. solid; milk scanty, watery; sp. 7—8.

Differs from *L. subdulcis* in solid stem.

camphoratus, Fr. Smell strong, pleasant. P. 3—5 cm. thin, depr. dry, glabrous, reddish-brown, slightly zoned, rather wavy; g. adnate, reddish-yellow; s. 2—3 cm. subundulate, colour of p.; milk white; sp. 8—9.

Smell strong and fragrant, especially when dry.

L. cimicarius has a very strong smell when quite fresh, but none when dry.

subumbonatus, Lindgr. P. 2—3 cm. thin, depr. subumb. rugose, punctate, wavy, dusky cinnamon, flesh grey then yellowish; g. adnate, pinkish rufous; s. 2—3 cm. stuffed, rufescent; milk watery, whitish; sp. 5—6. (9, Sacc.)

Smell foetid when dry.

tomentosus, Otto. P. 5—7 cm. umb. then depr. or infundib. downy, dingy flesh colour or brownish; g. tinged reddish-yellow; s. 4—5 cm. soon hollow, pallid, naked, smooth; milk white; sp. 8—9.

helvus, Fr. P. 5—9 cm. fragile, plane, subumb. pale brick red, broken up into floccose squamules; g. decurrent, soon ochraceous; s. 5—8 cm. brick red, pruinosely pubescent; milk scanty, white, rather sweet; sp. 8—9.

L. tomentosus differs in the naked stem.

squalidus, Kromb. P. 2—5 cm. umbil. pale greyish olive or lurid; g. narrow, yellowish; s. 4—5 cm. solid, equal, glabrous, pale brown; milk whitish; sp. 6—10.

About size of *L. pyrogalus*, but gills narrow and milk mild.

ligniotus, Fr. P. 4—7 cm. exp. umb. plicato-rugulose, pruinosely velvety, sooty umber; g. adnate, snow-white then tinged ochre; s. 6—12 cm. colour of p., apex constricted and plicate; milk white; sp. echinulate, 9—10.

Known by rugulose pileus and mild milk.

§§ *Gills pallid.*

pallidus, Fr. P. 6—10 cm. umbil. viscid, pale ochraceous tan, zoneless; g. crowded, pallid, pruinose; s. 3—5 cm. pallid tan, soon hollow; milk white; sp. 9—10 × 7—8.

cremor, Fr. P. 3—5 cm. soon plane, minutely punctate, tawny, margin striate; g. adnate, pallid; s. 3—4 cm. hollow, coloured like p.; milk whitish, watery; sp. 9—10.

var. *pauper*, Karst. P. 7 cm. margin sulcate; milk none; sp. 10.

[**rubrocinctus**, Fr. P. plane, tawny then paler; g adnate, pallid; s. pallid with a pale red zone at the apex; milk scanty, white.

†† *Milk acrid.*

§ *Gills whitish or pallid.*

vellereus, Fr. White. P. 9—18 cm. umbil. tomentose, zoneless; g. decurrent, distant; s. solid, pubescent, 5—8 cm.; milk scanty, white; sp. 8 × 6.

piperatus, Fr. White. P. 7—18 cm. thick, firm, umbil. then infundib. edge erect, glabrous, even; g. decur. crowded, narrow, forked; s. 3—4 cm. stout, smooth, solid; milk copious, white, acrid; sp. 8—9.

pergamenus, Fr. White. P. 5—8 cm. plane then depr. wavy, rugulose; g. adnate, very narrow, horizontal, tinged straw colour; s. glabrous, discoloured, 7—10 cm.; milk white; sp. 8 × 6.

Differs from *L. piperatus* in crowded narrow gills, longer stem, and thinner pileus.

Scoticus, B. and Br. Pallid white, smell pungent. P. 2·4 cm. soon plane, tomentose then smooth except incurved margin; g. thin, rather broad; s. 2—3 cm. solid, tinged pink; milk white; sp. 7—8.

involutus, Soppitt. White. P. 2—4 cm. plane or depr. incurved edge silky; g. subdecurrent, very narrow, densely crowded; s. 2—2·5 cm. glabrous, solid; milk white; sp. elliptical, 5 × 3.

Differs from *L. scoticus* and all known species in the smooth, elliptical spores.

torminosus, Schaeff. P. 6—9 cm. obt. depr. slightly zoned, margin strongly involute and shaggy, tinged flesh colour or ochre; g. subdecur. pale; s. 5—8 cm. paler than p.; milk white; sp. echin. 9—10 × 7—8.

Differs from *L. cilicioides* in zoned pileus and white milk.

cilicioides, Fr. P. 5—9 cm. soft, not zoned, exp. and depr. margin fibrillose, pale flesh colour with rufous tinge; g. decur. somewhat branched; s. 5—8 cm. stuffed, even, silky, not spotted, pallid; milk white or faintly tinged yellow; sp. 8 × 6—7, echinulate.

pubescens, Fr. P. 5—8 cm. thin, exp. umbil. zoneless, whitish, margin pubescent; g. crowded, tinged pink; s. 2—4 cm. pinkish then pale, narrowed downwards; milk white; sp. echin. 7—8.

Differs from *L. torminosus* and *L. cilicioides* in the margin being only downy.

insulsus, Fr. P. 6—9 cm. soon infundib. viscid, slightly zoned, yellowish or reddish, margin naked; g. forked, pallid; s. 3—4 cm. stuffed then hollow, pallid; milk white; sp. echin. 10 × 8.

L. zonarius differs in the solid stem.

hysginus, Fr. P. 6—10 cm. rigid, umbil. viscid, thin margin incurved, reddish flesh colour: g. crowded; s. 5—9 cm. stuffed then hollow; milk white: sp. 10 × 7—8.

[**luridus**, Fr. P. fleshy, almost plane, even, viscid, slightly zoned, rufous-grey, edge bent down; g. decur. whitish; milk white, acrid; s. hollow, pallid; sp 8 × 6.

zonarius, Fr. P. 5—9 cm. compact, viscid, pale orange or yellowish, zoned; g. whitish; s. 5—8 cm. solid, yellowish; milk white; sp. 9—10 × 8.

circellatus, Fr. P. 5—9 cm. soon plane, wavy, viscid, brownish, zones and umbilicate disc darker: g. crowded, whitish; s. solid, narrowed below, pallid; milk white; sp. 7—8.

L. flexuosus differs in yellow gills.

trivialis, Fr. 9—18 cm. depr. viscid, zoneless, pale yellowish or pinky tan, margin incurved; g. crowded, white; s. 3—8 cm. paler than p., hollow; milk white; sp. 9—10.

turpis, Fr. P. 6—14 cm. rigid, depr. zoneless, viscid, olive-umber, margin at first with yellow down; g. thin, pallid; s. 3—6 cm. viscid, olive, narrowed at base; milk white; sp. echin. 6—8.

Differs from *L. blennius* in absence of circles of spots on pileus.

umbrinus, Pers. P. 5—8 cm. plane, umbil. wavy, dry, floccose, umber, not zoned; g. crowded, pallid; s. solid, very short, 2 cm. greyish white; milk white, forming grey spots; sp. 8—9.

blennius, Fr. P. 7—12 cm. depr. glutinous, dingy olive grey, often concentrically spotted, margin at first incurved; g. crowded; s. 3—5 cm. viscid, coloured like pileus; milk white; sp. 7—8 × 6.

[**lividus**, Lamb. P. convex then plane or depr. not distinctly zoned, pale livid, centre fuscescent, viscid (?); g. subdecur. pale livid, crowded; s. livid, solid, curved; milk white, acrid.

[**impolitus**, Fr. P. convex then depr. subumb. dry, silky, not zoned, becoming pale; g. adnate, crowded, pallid; s. glabrous but not polished, reddish white; milk white, acrid.

§§ *Gills rufescent or yellowish.*

rufus, Scop. P. 6—9 cm. umb. depr. flocculose then glabrous, zoneless, rufous bay, shining; g. yellowish rufous; s. 5—8 cm. rufescent; milk white; sp. 7—9.

[**decipiens**, Q. P. moist then puberulent, reddish flesh-colour; g. narrow, tinged flesh-colour; s. slender, paler than p., milk very acrid; sp. 8—9.

[**malliodorus**, Boud. Smell unpleasant. P. infundib. dry, rather viscid when moist, tawny ochre or tawny brick-red, zones formed of darker spots, edge glabrous; g. subdecur. pallid then like p.; s. short, rugose: flesh tawny, milk white, acrid.

Differs from *L. quietus* in brighter colour and acrid milk.

capsicum, Schulz. P. 3—6 cm. obtuse, deep chestnut colour, margin strongly incurved; g. tawny; s. white with tawny fibrils; milk white; sp. 6—7.

[**tithymalinus**, Fr. P. umb. then convex, depr. dry, even, glabrous, not zoned, yellow, disc rufescent; g. adnate, crowded, yellowish then flesh-colour; s. glabrous, colour of p.; milk white, acrid.

subdulcis, Fr. P. 3—6 cm. thin, at length depr. papillate, even, glabrous, zoneless, bay or rufous cinnamon, not turning pale; g. adnate, paler than p.; s. 3—5 cm. soon hollow, equal, rufescent, slightly pruinose; milk white, sweet at first then very slightly acrid; sp. 9—10.

var. *concavus*, Fr. P. rufous bay; g. reddish, pruinose; mild.

var. *sphagneti*, Fr. P. shining, margin crenate; s. hollow, glabrous.

Terrei, B. and Br. Caespitose. P. 1—2 cm. wrinkled, depr. bay; g. decur. pallid; s. thickened at base, hollow, with orange down; smell sweet.

[**rubescens**, Bres. P. convexo-plane then depr. rarely subumb. polished, dry, edge at first incurved and white-pruinose, pinkish brick-red then paler; g. crowded, pallid then pinkish-rufescent, subdecur.; s. colour of p.; milk white, sparingly acrid; sp. 7—8.

cimicarius, Batsch. Smell unpleasant, oily. P. 2—4 cm. depr. or infund. wavy, dark bay brown; g. reddish ochre, subdecur.; s. 2—3 cm. paler than p.; milk white; sp. 7—8.

Smell strong, said to resemble bugs.

obnubilus, Lasch. P. 2—3 cm. thin, convex, umbil. sooty brown, slightly striate; g. rather crowded, yellowish; s. 3—4 cm. stuffed, slender, paler than p.; milk white; sp. 8—9.

var. *crenatus*, Mass. P. 3—5 cm. sooty brown, coarsely sulcate, margin crenate.

flexuosus, Fr. P. 7—12 cm. dry, depr. wavy, lead colour or with lilac tinge, becoming squamulose; g. thick, distant, yellow; s. 5—8 cm. stout, solid, greyish; milk white; sp. 6—8.

var. *roseozonatus*, Fr. P. rose colour, zones darker.

Differs from *L. blennius* in yellow gills.

plumbeus, Fr. P. 8—14 cm. convex then infundib. dry, dull, sooty then blackish brown; g. crowded, tinged yellow; s. solid, equal, stout; milk white, acrid; sp. 6—8 × 4—6.

[**capsicoides**, Fr. P. compact, convex-incurved, wavy, dry, glabrous, not zoned, flesh-colour; g. broad, crowded, whitish; s. solid, short, thick.

Differs from *L. flexuosus* in broad, crowded, white g.

[**jecorinus**, Fr. P. convex then plano-depr. rugulose with elevated ridges, zoneless, viscid, reddish liver-colour; g. distant, yellow; s. hollow, pallid; milk white, acrid; sp. 10.

[**crampylus**, Fr. P. convex, umbil. everywhere rugulosely tomentose, zoneless, sooty red, edge downy; g. yellow; s. greyish; milk white, acrid.

pannucius, Fr. P. plano-discoid, zoneless, glabrous, brick-red, edge white-tomentose at first; g. yellow; s. elongated; milk white, acrid.

[**fluens**, Boud. P. convex, viscid, blackish olive, centre scarcely zoned, edge pale; g. adnate, ochre with grey tinge later; s. solid, rather viscid greyish ochre, brown when bruised like gills; milk acrid, white then brownish.

Differs from *L. blennius* in larger size, tufted habit, convex p. and darker colour.

fascinans, Fr. P. convex then depr. viscid, brownish brick-red, zoneless, edge downy white at first; g. thickish, yellowish; s. hollow, pallid; milk white.

cyathicula, Fr. P. 3—5 cm. plane, umb. brick-red then pale, broken up, opaque; g. decurrent, crowded, yellowish; s. 4—5 cm. pallid; milk white; sp. 6—8.

glyciosmus, Fr. Strong scented. P. 3—7 cm. soon exp. umb. squamulose, greyish or brownish, opaque; g. soon pale ochre; s. 2—3 cm. pubescent, pallid; milk white; sp. 6—10.

var. *flexuosus*, Fr. P. wavy, somewhat zoned.

pyrogalus, Bull. P. 5—8 cm. exp. depr. livid grey; g. thin, ochraceous; s. 3—4 cm. hollow, pallid; milk white; sp. 7—10.

L. flexuosus differs in larger size, thick gills, and squamulose dark pileus.

utilis, Weinm. P. 10—20 cm. exp. then infund. glabrous, tan; g. adnate; s. 5—8 cm. hollow, even, coloured like p.; milk white; sp. 7—9 × 5—6.

mammosus, Fr. P. 4—6 cm. acutely umb. then depr. zoneless, dry, greyish brown or lurid, covered with grey down; g. adnate, pale rusty; s. 5—7 cm. stuffed then hollow, pallid, downy; milk white, slowly acrid; sp. 8—9.

aurantiacus, Fr. P. 3—5 cm. depr. even, zoneless, slightly viscid dull orange; g. decurrent, ochre; s. 6—7 cm. coloured like p.; milk white, becoming acrid; sp. 9—10.

L. volemus differs in pruinose stem, and *L. mitissimus* in mild milk.

[**Porinae**, Roll. P. very firm, rugose, glabrous, viscid, orange yellow, generally with red zones, convex then plane, at length infundib. irreg. subumb. edge even incurved; g. yellow then ochre, crowded; s. ochre, rooting; milk white, scanty, rather acrid; sp. 7·5.

picinus, Fr. P. 5—7 cm. convex then plane, umb. brownish umber, at first villosely velvety then disc almost glabrous; g. adnate, much crowded, ochre; s. 4—7 cm. even, glabrous, paler; milk white; sp. 9—10. (5—6 Sacc.)

Velvety p. and acrid milk mark this species.

spinulosus, Q. P. 2—3 cm. depr. umbo acute, flesh colour or rosy, with minute erect spines towards margin; g. decur. flesh colour with yellow tinge; s. 2—3 cm. flexuous, rugulose, paler than p.; milk white; sp. 8.

var. *violaceus*, Cke. P. rosy violet; s. almost smooth.

lilacinus, Lasch. P. 2—5 cm. depr. papillate, rosy-lilac, floccose

when dry; g. adnate, tinged pink; s. 2—3 cm. pallid with a white bloom; milk white; sp. 7—10.

lateritioroseus, Karst. P. plano-depr. often subinfundib. and irreg. granulose or squamulose especially near the edge, zoneless or nearly so, pale brick-red with rosy tinge; g. decur. pinkish; s. solid, colour of p., apex with white meal; milk scanty, white, acrid; sp. 9—10 × 8—9.

Differs from *Lact. lilacinus* in decur. g. and pileus not floccose.

controversus, Pers. P. 7—12 cm. umbil. then infundib. whitish with red spots or zones; g. closely crowded, soon with flesh-coloured tint; s. 3—5 cm. white; milk white; sp. echin. 6—8.

[**viridis**, Fr. P. depr. wavy, dry, green; g. white tinged rufous; s. hollow, stout, base narrowed; milk white; sp. 8·5 × 6.

[**tabidus**, Fr. P. submembranaceous, acutely umb., reddish then pale, edge striate when moist; s. subfistulose, pallid; g. flaccid, pallid; milk; sp. 8 × 4—5.

Recognised by very thin, acutely umbonate p.; owing to absence of description of milk, position uncertain.

[**rutaceus**, Lasch. P. subdepr. almost glabrous, opaque, reddish-fawn; g. subdecur. crowded, narrow, yellowish clay-colour.

Smell like *Ruta graveolens*, taste bitter and of camphor.

Stem excentric or lateral; growing on wood.

[**lateripes**, Fr. P. white tinged rosy, subdimidiate; g. crowded, pallid; s. lateral; milk white, rather acrid.

[**hometi**, Gill. P. lateral, fleshy, convex, pale yellowish ochre, edge irreg. flesh white then violet; g. slightly decur. narrowed at both ends. pallid, spotted violet; s. lateral, stout, colour of p.

minimus, W. G. Sm. P. 1 cm. convex, subumb. excentric, pallid tan; g. subdecur. pallid; s. 1 cm. solid, coloured like p.; milk abundant, white; sp. 3—4.

obliquus, Fr. Smell strong. P. 3—4 cm. thin, depr. oblique, lobed, zoned greyish, silky; g. crowded; s. subexcentric, curved; milk white; sp. 5—6.

HYGROPHORUS, Fr.

I. Limacium. *Pileus viscid, stem also often so; secondary veil floccose, forming a ring or attached to edge of p.; s. squamulose, or scabrid at apex; g. adnato-decur.*

** White or yellowish.*

[**ligatus**, Fr. White. P. convexo-plane, even; g. thick, distant; s. long, fibrillose, apex naked, ring inferior, subappend.; sp. 8—10 × 4—5.

Sometimes tinged yellow, rarely spotted red.

chrysodon, Fr. White, edge of p. gills and upper part of stem tinged yellow. P. 5—7 cm. exp.; g. broad, thin; s. 5—7 cm. yellow squamules forming ring at apex; sp. 8 × 4.

[**gliocyclus**, Fr. P. exp. pallid-white, very glutinous; g. decur. distant, permanently white; s. with inferior glutinous ring.

[**hyacinthinus**, Q. Fragrant. P. snow-white, viscid, silky-shining, margin pubescent; s. slender, striate, pruinose.

eburneus, Bull. White. P. 3—5 cm. exp. even, edge soon naked; g. decur. distant, firm; s. 3—7 cm. viscid, rough with points at apex; sp. 5 × 4.

Differs from *H. cossus* in pure white colour and absence of unpleasant smell.

[**subpurpurascens**, Allesch. P. hemispher. viscid, white, tan or brownish when dry; g. decur. white, brownish-purple when dry; s. viscid, narrowed below and rooting, white, apex white-scurfy; sp. 6—8 × 5—6.

cossus, Sow. Smell strong. P. 3—5 cm. exp. glutinous, shining when dry, white with yellow tinge, edge naked; g. subdecur. distant, firm; s. scurfy-punctate upwards; sp. 7—8 × 4—5.

[**melizeus**, Fr. Straw colour. P. exp. depr. even; g. decur. thin, distant; s. soft, narrowed below, apex with white squamules.

penarius, Sow. P. 4—7 cm. P. umb. then exp. and obtuse, usually dry, compact, pallid tan, opaque; g. decur. distant, thick; s. 3—5 cm. glutinous then dry and rugulose, fusiformly rooting; sp. 7—8 × 3—4.

** *Reddish.*

[**purpurascens**, Fr. P. whitish, disc with purplish squamules; g. decur. white tinged purple; s. white, bristling with purplish squamules, ring inferior.

[**capreolarius**, Kalchbr. Entirely purple rufous. P. soon dry, virgate with darker fibrils, centre squamulosely punctate, flesh reddish; g. rigid, purplish then changing to cinnamon; s. reticulately striate with darker purple-umber fibrils.

erubescens, Fr. P. 5—12 cm. gibbous then convexo-plane, white then deep rosy or dingy red; g. soft, white spotted red; s. 4—9 cm. reddish fibrillose, apex red punctate; sp. 8—10 × 4—5.

Usually growing in circles. Pileus and flesh white suffused with red everywhere.

pudorinus, Fr. P. 5—9 cm. convex depr. viscid, clear reddish flesh colour; g. distant, thick, shining white; s. 5—9 cm. white, apex constricted and rough with points; sp. 8 × 4.

Differs from *H. erubescens* in pure white gills, and clearer colour of p.

rubescens, Beck. P. convex, shining, flesh-colour or yellowish, disc often somewhat tawny; g. very distant, adnate, scarcely decur., pale flesh-colour; s. clavate from base, yellowish white,

narrowed and floccosely-verruculose below gills; sp. 7·5—10 × 4—7; flesh of p. reddish.

Differs from *H. pudorinus* and *H. discoideus* in clavate s. and red flesh.

[**Queletii**, Bres. P. convex-plane, subumb. white with pinkish flecks at centre, epidermis becoming squamulose, edge at first incurved and white-floccose, viscid; g. adnato-decur. white or yellowish, edge citrin; s. solid, white, scurfy with reddish flecks; sp. 8—9 × 5.

Sometimes entirely white and p. concentrically cracked.

glutinifer, Fr. P. 5—9 cm. exp. rufescent, pellicle glutinous, disc rugosely punctate; g. arcuato-decur. white; s. 7—9 cm. stuffed, ventricose below, viscid, colour of p., apex white squamulose; sp. — .

[**leucophaeus**, Fr. P. exp. pallid gilvous, disc rugosely punctate; g. adnate then decur. pallid; s. hollow, narrowed below, pallid, apex white floccose; sp. 6—8 × 4.

[**Secretani**, Henn. (= *Ag. suaveolens*, Var. D. Secr.) Smell strong, like aniseed. P. camp. exp. white, disc with rosy fibrils; g. adnato-decur. distant, thick, white then tan or yellowish; s. white, glabrous, apex white-floccose; sp. 11—13 × 5—6.

[**persicinus**, Beck. P. conic then hemispher. edge incurved, peach colour or somewhat orange, shining, even; g. thick, both ends narrowed, decur. edge very obtuse, fuscescent; s. constricted below gills, pale lilac-peach-colour, base yellowish; sp. 15—20 × 5—6.

[**miniaceus**, Beck. P. convex then exp. fleshy, vermilion brick-red, centre innately floccose; g. adnate, very distant, broad, white; s. orange flesh-colour; flesh white soon reddish, deep rose under cuticle of p.; sp. 6—7.

* * * *Tawny or yellow.*

arbustivus, Fr. P. 3—5 cm. exp. viscid, innately virgate, tawny; g. adnate, thick, white; s. solid, 3—4 cm. pallid, apex with loose white mealy granules; sp. 10 × 6.

discoideus, Fr. P. 3—5 cm. exp. depr. glutinous, pale gilvous, disc dark and rusty; g. adnato-decur. soft, colour of p. then pallid; s. viscid, flocculose, with white points upwards; 3—5 cm.; sp. 5—8 × 4—5.

[**Friesii**, Sacc. (*H. nitidus*, Fr. Mon., not B. and C.). P. convex then plane, obtuse, viscid, yellow; g. deeply decur. white then pallid; s. solid, glabrous, viscid, apex even, white; sp. 8 × 4—5.

[**nitidus**, Fr. P. exp. viscid, yellow; g. deeply decur. distant, white then pallid; s. solid, glabrous, viscid, apex smooth, white.

aureus, Arrh. P. 2—3 cm. exp. glutinous, golden yellow; g. adnato-decur. white; s. 4—5 cm. reddish tawny and glutinous up to imperfect ring; sp. 8 × 4.

[**Bresadolae**, Q. P. campan.-exp. umb. glutinous, clear yellow, umb. orange tawny; g. distant, thick, attenuato-decur. citrin or more

or less white; s. apex white, yellow-flocculose below ring, glutinous; sp. 8—10 × 6.

[**lucorum**, Kalchb. P. plano-depr. subumb. viscid, whitish, disc bright citrin, altogether yellowish when old; g. adnato-decur. pallid or citrin, edge white; s. slender, base subbulbous, colour of p.; sp. 7 × 4.

aromaticus, Sow. P. 5—7 cm. exp. very fragile, cinnamon, glutinous; g. subdecur. white with pink tinge; s. 3—5 cm. equal, colour of p.

Smell spicy, taste like peppermint. A fungus of uncertain affinity.

* * * * *Olivaceous-umber.*

limacinus, Fr. P. 3—6 cm. convex, obtuse, umber then smoky olive, edge paler; g. adnato-decur. greyish white; s. 5—7 cm. solid, viscid, apex squamulose; 12 × 8.

Differs from *H. olivaceo-albus* in squamulose apex of stem, and from *H. agathosmus* in viscid stem.

[**vignolius**, Paniz. P. obtuse, very glutinous, olive; g. adnate, greyish-purple then rusty, edge white; s. with dark concentric scales or glutinous and fibrillose.

olivaceo-albus, Fr. P. 3—5 cm. exp. even, with olive gluten which disappears leaving surface pale, umbo brown; g. adnato-decur. white; s. 5—7 cm. viscid, with a floccose ring at first, scaly and spotted brown, apex glabrous; sp. 7—8 × 4.

hypothejus, Fr. P. 3—6 cm. exp. and more or less depr. thin, olive gluten disappearing and leaving p. yellowish-olive or brownish, virgate; g. decur. yellow; s. 5—9 cm. viscid, paler than p., trace of ring when young; sp. 8—10 × 4—5.

H. olivaceo-albus differs in white gills.

cerasinus, B. Smell strong, like cherry-laurel. P. 2—3 cm. obtusely umb. viscid, pale umber then greyish, margin downy; g. very distant, tinged pink; s. 5—7 cm. white, apex squamulose; sp. 8 × 4.

* * * * * *Brownish grey or livid.*

fusco-albus, Lasch. P. 4—5 cm. exp. even, viscid, brownish grey; g. decur. broad, snow-white; s. 5—7 cm. equal, dry, apex white-floccose; sp. 12—14 × 7—8.

agathosmus, Fr. Smell like aniseed. P. 3—5 cm. exp. gibbous, viscid, livid grey, disc with crowded pellucid papillae; g. decur. soft, white; s. 5—7 cm. dry, fibrillosely striate, rough with squamules upwards; sp. 9—10 × 5.

[**pustulatus**, Fr. P. exp. umb. viscid, livid grey, umbo fuscous, cracked into papillae; g. adnato-decur. white, often glaucous; s. equal, white, rough with black points; sp. 8—10 × 4—5.

Var. *terebratus*, Fr. P. subumb. glabrous; g. triquetrous; s. wavy, pure white, apex with black points.

[**tephroleucus**, Fr. P. exp. then depr. round the brown umbo, viscid, grey, adpressedly squamuloso-fibrillose; g. decur. white; s. solid, with black fibrils above.

[**hyporrhodius**, Otth. P. convex then depr. greyish brown, disc squamulose; g. slightly decur. both ends acute, rosy white, connected by veins; s. equal, white, granuloscly squamulose.

[**albidus**, Karst. P. convexo-plane, umb. cuticle longitudinally interwoven, rugosely papillate near edge, even, whitish, viscid; g. adnato-decur. distant, shining white; s. equal, flocculose, white; sp. 8—10 × 6.

mesotephrus, B. P. 2—3 cm. hemispher. hygr. viscid, striate, whitish with brown disc; g. decur. white, s. 3—5 cm. slender, flexuous, white, viscid, apex granular; sp. 9—10 × 5.

livido-albus, Fr. P. 3—6 cm. even, glabrous, viscid, exp. obtuse, thin, everywhere livid; g. decur. white; s. slender, even, almost smooth; sp. 10 × 6.

Differs from *H. eburneus* in livid p. and glabrous s.

calophyllus, Karst. P. conico-convex, exp. obsoletely umb. viscid, even, glabrous, sooty-fuscous; g. decur. distant, joined by veins, rosy or at length whitish; s. thicker below, wavy, pallid then sooty, glabrous, even, dry; sp. 6—8 × 4—5.

II. Camarophyllus. *Veil absent. Stem not punctate or scabrid. Pileus firm, moist in wet weather but not viscid. Gills distant, arcuate.*

* *Gills deeply and at length obconically decurrent.*

caprinus, Scop. P. 7—12 cm. fleshy, fragile, exp. umb. rather wavy, sooty, fibrillose; g. very broad, thick, very distant, white then glaucous; s. 5—7 cm. solid, sooty fibrillose; sp. 10 × 7—8.

leporinus, Fr. P. 4—5 cm. convex, gibbous, reddish-yellow, fibrilloso-floccose, opaque; g. decur. gilvous; s. 4—5 cm. fibrillose, pallid; sp. subgl. 5—6.

Differs from *H. pratensis* in floccose p.

[**alutaceorubens**, Otth. P. convex then flat, yellowish red, disc darker; g. scarcely decur. reddish-yellow; s. cylind. rather twisted, apex reddish and mealy, whitish below.

[**velutinus**, Borsz. P. exp. gibbous then subdepr. even when moist, floccosely squamulose when dry, tawny yellow; g. deeply decur. thick, orange; s. fibrillosely squamulose, darker; sp. 8 × 4.

nemoreus, Fr. P. 3—6 cm. equally fleshy, exp. almost glabrous, tawny orange; g. thick, distant, colour of p.; s. squamulose, fibroso-striate, base narrowed, pale; sp. 6—7 × 5.

Differs from *H. pratensis* in squamulose, pale s., and from *H. leporinus* in glabrous p.

pratensis, Fr. Every part tawny-yellow or buff. P. 2—7 cm. disc very fleshy, gibbous, margin thin, altogether obconic; g. deeply

decur. thick, distant; s. 3—5 cm. stuffed, even, glabrous, narrowed downwards; sp. 6 × 4.

Edible. Variable in size, sometimes all white or grey, s. often pale.

Var. *cinereus*, Fr. P. and g. grey, s. whitish, slender.

Var. *pallidus*, B. and Br. P. depr. or infundib., edge wavy, entirely pale ochre.

[**bicolor**, Karst. P. compact and thick, obconoid, convex, often depr. whitish, even, glabrous, g. deeply decur. gilvous; s. long, solid, narrowed below, glabrous, whitish; sp. 10 × 6.

[**suberosus**, Jacobasch. P. convex, subdepr. subturbinate, not umb. reddish yellow, g. decur. pallid; s. pallid, equal, floccosely tomentose; sp. 3·7—5·5.

[**Karstenii**, Sacc. and Cub. P. fleshy, disc compact, convexo-plane, glabrous, even, whitish; g. deeply decur. distant, yellow; s. solid, narrowed below, wavy, whitish; sp. 10 × 6.

virgineus, Wulf. White. P. 3—7 cm. fleshy, exp. obtuse then depr. becoming cracked and floccose when dry; g. distant, thickish; s. 3—5 cm. stuffed, firm, short, narrowed downwards; sp. 8—10 × 5. Edible.

Var. *roseipes*, Mass. Stem rosy downwards.

niveus, Fr. White. P. 1·5—2·5 cm. tough, membranaceous, convex, umbil. viscid; g. thin, arcuate, distant; s. 4—6 cm. slender, equal; sp. 7—8 × 4—5.

Differs from *H. virgineus* in smaller size, thin p. and slender equal s.

russo-coriaceus, B. and Br. White, fragrant. P. 1·5—2 cm. convex, disc fleshy, edge thin; g. thick, very distant; s. 1·5—2·5 cm. solid, smooth, base narrowed; sp. 8 × 5.

Differs from *H. niveus* in thick disc, and smell resembling Russian leather.

[**helvella**, Boud. P. hygr. glabrous, greyish ochre, obconic-campan. edge sometimes wavy; g. shortly decur. narrow, grey; s. whitish, equal, scurfy above, base thickened and downy.

[**glaucus**, Karst. P. convexo-plane, umb. then depr. and somewhat wavy, moist, glabrous, shining, even, glaucous; g. deeply decur. rather branched, glaucous; s. wavy, with white down then glabrous, white; sp. 6—8, glob.

[**clivalis**, Fr. White, fragile. P. campan. exp. shining, edge at first incurved then spreading, striate; g. narrowed behind, nearly free, ventricose, distant; s. solid, short, fragile, narrowed below; sp. 6—7 × 4.

ventricosus, B. and Br. White. P. 4—7 cm. convex, disc fleshy, edge thin, sometimes irreg.; g. deeply decur. narrow; s. 4—7 cm. ventricose, solid, smooth; sp. 7 × 4.

Known among white sp. by fleshy p. and stout, ventricose stem.

** *Gills ventricose, sinuato-arcuate or plano-adnate.*

fornicatus, Fr. P. 2—5 cm. campan. then exp. even, glabrous, viscid, white or livid; g. sinuato-adnexed, thick, white; s. 5—7 cm. firm, equal, tough, glabrous, white; sp. 5—6 × 3.

Stem solid below, apex hollow. Pileus obsoletely umb. rather wavy; gills sometimes free, with a decurrent tooth, not decurrent as in *H. virgineus*.

distans, B. P. 2—4 cm. exp. or depr. umbil. thin, viscid, white with silky sheen, sometimes stained with brown; g. adnate, very distant, white; s. 3—4 cm. white above, rather narrowed and greyish below; sp. 10 × 8.

[**streptopus**, Fr. Fragile, splitting. P. campan. exp. greyish white; g. sinuato-adnate, rather crowded, white; s. hollow, rather twisted, white.

Clarkii, B. and Br. P. 3—5 cm. fragile, thin, exp. subumb. viscid, livid grey; g. adnate with decur. tooth, broad, thick, distant, white; s. 4—7 cm. grey, base white; sp. subgl. 12 × 10.

H. distans differs in white umbilic. p.

metapodius, Fr. P. 3—5 cm. compact, exp. viscid then silky squamulose, brownish; g. arcuato-decur. thick, distant, greyish; s. 3—4 cm. glabrous, grey, reddish inside; sp. 8 × 5.

ovinus, Bull. P. 3—5 cm. thin, conical then exp. gibbous, viscid then squamulose, fuscous; g. arcuato-adnate, connected by veins, grey then rufescent; s. 4—5 cm. glabrous, often twisted, pallid or dark; sp. 5 × 3—4.

Differs from *H. metapodius* in thin p. subequal s. and thinner g.

[**connatus**, Karst. P. thin, convexo-exp. unequal, dry, even, grey then pallid, silky-white then glabrous; g. decur. distant, branched, narrow, grey; s. solid, rather wavy, squamulose above, colour of p.; sp. 7—9 × 4—5.

[**flavus**, Lamb. Smell like new meal. P. convex, exp. then umbil. edge sublobed, glabrous, even, yellowish; g. adnexed with decur. tooth, very broad, ventricose, distant, whitish; s. equal, even, cylindrical, colour of p.

subradiatus, Fr. P. 3—5 cm. submembranaceous, subumb. radiato-striate, brownish; g. adnate with decur. tooth, thin, white; s. 3—6 cm. fistulose, glabrous, pallid; sp. 8 × 5.

Var. *lacmus*, Fr. P. plano-depr. lilac then pallid, disc sometimes fibrillose; g. grey.

irrigatus, Fr. P. 3—5 cm. thin, campan. then exp. subumb. livid, lubricous; g. whitish, with a decur. tooth; s. 4—7 cm. grey, very viscid; sp. 6—7 × 4.

H. anguinosus differs in the sooty-grey gluten.

III. HYGROCYBE. *Veil absent. Entire fungus thin, watery, fragile. P. viscid when moist, shining when dry, rarely floccose. Often bright coloured.*

* *Gills decurrent or adnate with decur. tooth.*

Colemannianus, Blox. P. 3—5 cm. campan. then exp. and strongly umb. pale umber paler except disc when dry; g. deeply decur. connected by veins, pale brown; s. 2—3 cm. white, silky upwards; sp. 7 × 4.

foetens, Phill. Very foetid. P. 2—3 cm. exp. umber; g. grey; s. 2—3 cm. olive yellow, squamulose; sp. subgl. 4—5.

sciophanus, Fr. P. 2—3 cm. exp. slightly viscid, opaque, pale brick red, or tawny, striate; g. decur. connected by veins, tinged red; s. 3—6 cm. hollow, subflexuous, smooth; sp. — .

[**sulcatus**, Karst. P. campan. exp. viscid, sulcate except disc, deep tawny; s. hollow, equal, glabrous, viscid, yellowish; g. decur. yellowish.

laetus, Fr. (= *H. Houghtoni*, B.). P. 2—3 cm. thin, convexo-plane, viscid, tawny; g. thin, distant, paler than p. decur.; s. 5—7 cm. tough, equal, viscid, colour of p.; sp. 7 × 4—5.

Differs from *H. sciophanus* in viscid stem.

vitellinus, Fr. Every part clear lemon yellow, paler when dry. P. 1·5—2·5 cm. viscid, edge plicato-striate; g. decur. rather distant; s. 3—5 cm. hollow, fragile; sp. 6 × 4.

ceraceus, Wulf. P. 2—3 cm. fragile, thin, exp. viscid, shining, wax-yellow; g. adnate, subdecur. distant, broad, almost triangular, yellow; s. hollow, 3—4 cm. hollow, colour of p. often flexuous; sp. 8 × 6.

Differs from *H. vitellinus* in broad gills and wax-yellow s. and p.

coccineus, Schaeff. P. 2·5—3 cm. fragile, thin, convexo-plane, obtuse, viscid, glabrous, scarlet then pale; g. adnate with decur. tooth, connected by veins, reddish or yellowish; s. 3—5 cm. hollow, compr. yellowish, crimson above; sp. 10—12 × 6. (6—8 × 4—5.)

Differs from *H. puniceus* in adnate g. and yellow base of s., from *H. miniatus* in glabrous p. and yellow base of s.

miniatus, Fr. P. 1—2 cm. fragile, thin, convex then umbil. scarlet then pale, opaque and squamulose; g. adnate, distant, yellow and red; s. 3—5 cm. terete, polished, scarlet; sp. 10 × 6.

turundus, Fr. P. 1—2 cm. thin, convex then umbil. very brittle, covered with greyish-brown down then squamulose; g. decur. distant, white then yellowish; s. 2—3 cm. tawny, polished; sp. — .

P. soon broken up into smoky squamules, but golden and viscid at first.

Var. *mollis*, B. and Br. P. golden with fibrils of same colour; s. yellow; g. shortly decur.

Var. *lepidus*, Boud. Brilliant golden orange; p. convex, squamu-

lose or hirsuto-tomentose, umbil. then golden, centre deepest ; g. thick distant, deeply and abruptly decur. pallid ; s. elongated, colour of p. ; sp. 9—10 × 5—6.

mucronellus, Fr. P. 1—2 cm. submembranaceous, fragile, conic then campan. acutely umb. glabrous, vermilion then pale ; g. decur. triangular, thick, yellow ; s. 2—3 cm. slender, colour of p. base white ; sp. — .

Wynniae, B. and Br. (= *Clitocybe xanthophylla*, Bres., *fide* Berk.). P. 1·5—2·5 cm. thin, convex then umbil. or infundib., striate, lemon yellow, greenish when dry ; g. decur. yellowish then tinged green ; s. 2—3 cm. colour of p. ; sp. 7—8 × 6.

[**syrjensis**, Karst. P. thin convex, disc depr. glabrous, even, dry, fuscous-white or dingy yellowish ; g. deeply decur. brownish, somewhat branched ; s. equal, pallid ; sp. 6 × 3—4.

micaceus, B. and Br. P. 1—1·5 cm. thin, exp. yellow then grey with green tinge, wrinkled, micaceous ; g. decur. pale umber ; s. 2—2·5 cm. slender, yellow, base brown ; sp. 4 × 3.

** *Gills adnexed then separating from stem.*

puniceus, Fr. P. 5—9 cm. campan. obtuse, wavy, viscid, crimson then pale ; g. slightly adnexed, thick, distant, yellow ; s. 5—7 cm. hollow, striate, colour of p. base white ; sp. 8 × 5.

Differs from *H. coccineus* in adnexed g. and striate stem with white base.

Var. *nigrescens*, Q. Becoming blackish everywhere. P. orange, virgate, then grey and silky ; s. striate, yellow, apex red.

obrusseus, Fr. P. 5—7 cm. conico-convex, wavy, golden yellow, shining ; g. adnato-ventricose, thick, distant ; s. 5—7 cm. hollow, subcompressed, glabrous, even, yellow, base tawny ; sp. 10—12 × 7.

Tawny base of stem not always evident.

[**citrino-croceus**, Beck. P. convex, flattened, glabrous, shining, citrin-saffron, disc golden, edge whitish, slightly upturned ; g. very distant, broad, shortly decur. white ; s. solid, subequal white or spotted citrin ; sp. 7·5—8·5 × 3·5—5.

intermedius, Pass. P. 3—5 cm. thin, campan. then exp. silky-fibrillose, golden then greyish ; g. adnate, ventricose, white then yellow ; s. 4—7 cm. yellow, fibrillosely striate ; sp. 8—9 × 6.

Differs from *H. obrusseus* in strong mealy smell, and p becoming grey.

conicus, Fr. P. 2—5 cm. conical, acute, often lobed, yellow or tinged crimson ; g. nearly free, thin, yellowish ; s. 3—9 cm. hollow fibroso-striate, colour of p. ; sp. 10—11 × 6—8.

Every part blackish when bruised or old.

[**albus**, Otth. P. conical, obtuse, even, white ; g. free, snow-white ; s. white, striate, shining.

Differs from *Hygr. conicus* in colour and obtuse p.

calyptraeformis, B. P. 3—7 cm. acutely conical then splitting and exp. clear rose then paler; g. slightly adnexed, tinged rose; s. 6—9 cm. hollow, white; sp. 7 × 4.

Var. *niveus*, Cke. Entirely white.

chlorophanus, Fr. P. 2—3 cm. fragile, very thin, convex, obtuse, viscid, yellow, sometimes crimson; g. emarginate, adnexed, white tinged yellow; s. viscid when moist, even, everywhere yellow, 4—7 cm.; sp 8 × 5.

Differs from *H. conicus* in not becoming black.

psittacinus, Schaeff. P. 1·5—3 cm. campan. then exp. umb. striate, yellow and orange, with green gluten; g. thick, distant, greenish; s. 3—5 cm. glutinous, yellow, apex green; sp. 10 × 5.

spadiceus, Fr. P. 4—9 cm. thin, conical, acute, fibrilloso-virgate, with olive-bay gluten, blackish and shining when dry; g. citrin; s. 5—7 cm. hollow, dry, tawny-fibrillose; sp. 6—7 × 4.

Differs from *H. conicus* in virgate p. and thicker g. not narrowed behind.

[**squalidus**, Lasch. Fragile. P. campan. exp. gibbous, and with the glabrous hollow s. sooty and glutinous, orange after the gluten has gone; g. thick, livid then fuscous, edge orange.

unguinosus, Fr. P. 4—5 cm. fragile, thin, obtuse, uneven, smooth, with smoky-brown dripping gluten, becoming cracked; g. white; s. 4—5 cm. hollow, with smoky gluten; sp. 10 × 7—8.

[**obscuratus**, Karst. P. fragile, convex, obtuse, dry, squamulose, sooty or livid blackish, mouse-colour when dry; g. sinuato-adnate, whitish or glaucous; s. unequal, usually inflated below, wavy, glabrous, pallid, centre often tinged smoky; sp. 7—10 × 3—5.

nitratus, Pers. Smell strong, nitrous. P. 3—5 cm. deformed, viscid, soon dry and squamulose, brownish-grey; g. broad, distant, white then glaucous; s. 4—7 cm. polished, white or tinged yellow; sp. 8 × 5.

There are two forms, a large one in woods, and a smaller one in pastures, structure that of *H. coccineus*, but colours very different. Readily distinguished by the strong nitrous smell.

[**Schulzeri**, Bres. P. hemispher. exp. or depr. dry, even, livid cinnamon; g. distant, subdecur. white then greyish; s. dry, colour of p., apex white-scurfy; inodorous; sp. glob. 3—3·5.

[**glauconitens**, Fr. Rigid. P. fibrillosely virgate, olive-black or sooty then pale; g. glaucous; s. equal, shining; sp. 6—8 × 6—7.

Fries thinks this may be a young state of *H. nitratus*. Smell same but weaker.

[**Marzuolus**, Bres. (= *Clitocybe Marzuolus*, Bres.]. P. 4·5—7 cm. s. 4—7 cm. base clavate; sp. 6—7 × 4—5.

Bresadola considers this sp. is the *Clitocybe* of Fries.

CLITOCYBE, Fr.

A. *P. fleshy, not hygr. pale and silky when dry.*

* Disciformes. *P. fleshy, convex then plane or subdepressed.*

† *P. greyish or brownish.*

nebularis, Batsch. P. 6—12 cm. convex then subgibbous, grey, at first with grey meal; g. narrow, subdecur. crowded, pallid; s. 5—8 cm. narrowed upwards, fibrillose, pale; sp. 6 × 3·5. Edible.

clavipes, Pers. P. 3—6 cm. convex then plane, naked, grey or brownish; g. decur. down stem, rather distant; s. obconic, fibrillose, 4—5 cm. livid sooty; sp. 6—7 × 4.

comitalis, Fr. P. 2—3 cm. soon plane, obtuse, sooty umber; s. 4—7 cm. obconic, sooty; g. plane, crowded; sp. 7—8 × 4.

gangraenosa, Fr. Foetid. P. 5—8 cm. soon plane, obtuse, whitish, variegated black, greenish, livid &c.; g. dingy white; s. 3—4 cm. striate, somewhat bulbous; sp. — .

polius, Fr. P. 2—4 cm. convexo-plane, regular, grey; g. decur. closely crowded, white; s. 4—7 cm. equal, glabrous, whitish; sp. — .

C. fumosa differs in cartilaginous substance, mealy apex of stem, hygr. &c.

inornata, Sow. P. 7—10 cm. plane or depr. pale greyish tan often with olive tinge, cuticle separable; g. adnate then decur. grey; s. 3—4 cm. glabrous, greyish; sp. — .

[**Cardarella**, Fr. Convex then plano-depr. glabrous, shining, covered with a thick separable pellicle, blackish red, very viscid; g. decur. broad, shining white; s. solid, stout, white. Edible.

[**auricula**, D. C. P. hemispher. even, glabrous, edge incurved, naked, greyish brown; g. white; s. solid, glabrous, white.

[**nimbata**, Batsch. P. camp.-convex, even, thin margin incurved, white mealy; g. crowded, arcuate, white; s. solid, innately squamulose, squamules becoming blackish.

[**luscina**, Fr. P. exp. even, glabrous, edge spreading, naked, fuscous then livid; g. subdecur. crowded; s. solid, short, narrowed downwards, powdered with white meal.

[**curtipes**, Fr. P. exp. oblique, obtuse, brown then pale, flesh brown; g. closely crowded, white; s. short, rigid, fuscous, thickened upwards, pale and subpruinose.

hirneola, Fr. P. 1—1·5 cm. convex then plane, silky shining, grey then pale: g. crowded, hoary; s. 4—5 cm. slender, subflexuous, grey, apex with white meal; sp. 5 × 3.

var. *major*, Fr. P. wavy, slightly zoned, whitish.

var. *undulata*, P. exp. slightly wavy and zoned, whitish; s. thickened downwards.

[**dothiophora**, Fr. P. exp. oblique, gibbous, hoary; g. decur. crowded, whitish; s. solid, short, excentric, glabrous.

†† *Pileus violet or rufescent.*

cyanophaea, Fr. P. 6—9 cm. plane, obtuse, brownish-blue; g. deeply decur. violet then pale; s. 6—7 cm. narrowed upwards, bluish when young, apex abruptly white; sp. — .

Differs from *Trich. nudum* in decurrent gills, &c.

[**tyrianthina**, Fr. Exp. even, purplish flesh colour, pellicle separable when dry; g. rosy violet; s. villose then striate.

Differs from *C. gilva* in springing from a fiery-red mycelium. Somewhat resembling *Trich. personatum.*

opiparia, Fr. P. 5—9 cm. nearly plane, obtuse, yellowish flesh-colour, shining; g. white, connected by veins; s. 4—7 cm. solid, glabrous, whitish; sp. — .

amara, Fr. Taste very bitter. P. 3—5 cm. plane, obtuse or subumb. floccosely broken up, rufescent; g. crowded, narrow, white; s. 4—5 cm. white, solid, floccose then glabrous; sp. 4 × 2.

[**vulpecula**, Kalchb. P. exp. depr. gilvous-rufescent; g. acutely adnate, narrow; s. hollow, naked, whitish.

socialis, Fr. P. 2—3 cm. umb. even, yellowish-red; g. tinged yellow; s. 2—3 cm. reddish, rooting base hairy; sp. — .

Stem strigose as in *Marasmius personatus.*

††† *Pileus becoming yellowish.*

amarella, Pers. Smell strong, taste bitter. P. 4—5 cm. plane, subumb. reddish-yellow or fawn colour; g. tinged grey, shining; s. 4—5 cm. pallid grey, white down at base; sp. — .

[**veneris**, Fr. P. exp. gibbous, yellow; g. crowded, shining white; s. elastic, glabrous, white.

vernicosa, Fr. P. 4—7 cm. obtuse, even, glabrous, gilvous or deep yellow; g. yellow; s. 2—3 cm. glabrous, yellow; sp. — .

Distinguished from *Trich. cerinum* by decur. gills.

venustissima, Fr. P. 3—5 cm. exp. obtuse, striate, orange, tinged red; g. decur. orange; s. 3—4 cm. long, glabrous, orange-red; sp. 6 × 3·5.

alutacea, Cke. and Mass. P. 1—1·5 cm. convex then umbil. edge incurved, even, tan; g. narrow, crowded, arcuate, decur. paler than p.; s. 3—4 cm. smooth, pale; sp. 6 × 4.

subalutacea, Batsch. P. 3—5 cm. plano-depr. obtuse, yellowish then pale; g. broad, whitish; s. 4—5 cm. firm, elastic, glabrous; sp. — .

†††† *Pileus greenish or pallid.*

odora, Sow. Smell fragrant. P. 4—5 cm. wavy, pale, dingy opaque green; g adnate, not crowded, pallid; s. 3—4 cm. elastic; sp. 6—8 × 4—5.

Trogii, Fr. Smell fragrant. P. 4—5 cm. compact, greyish white; g. crowded, white; s. 4—5 cm. whitish, solid; sp. — .

Stouter than *C. odora*, and p. greyish, not green.

[**vilis**, Karst. P. convex, exp. umb. glabrous, pellucidly striate, livid, pallid when dry; g. decur. pallid; s. equal, wavy, glabrous, umber, apex white-scurfy, livid when dry; sp. 2·5—3·5 × 2.

[**bifurcata**, Weinm. P. exp. rather silky, clay-colour then pale, edge substriate; g. adnato-decur. simple or bifurcate, white; s. fibrillose.

rivulosa, Pers. P. 3—7 cm. exp. or depr. obtuse, flesh-colour, rufescent &c. then pale, glabrous then with white down; g. broad, rather crowded, faintly tinged pink; s. 4—5 cm. tough, rather fibrillose, whitish; sp. 6 × 3·5.

var. *neptunea*, Cke. Smaller than type.

[**rigidata**, Karst. P. rigid, plane, depr. unequal, even, glabrous, pallid then whitish; g. adnate, pallid; s. thickened upwards, often compr. rooting, pallid; sp. 4—5 × 2—3.

†††††† *Pileus white, shining when dry.*

cerussata, Fr. White. P. 3—7 cm. plane, obtuse, even, subglabrous; g. closely crowded, adnate; s. 4—5 cm. smooth, elastic; sp. — .

var. *difformis*. Tufted, p. lobed; s. rugose; g. pallid.

var. *obtextus*, Lasch. Snow-white. P. fibrillosely interwoven then glabrous, rather viscid; g. subdecur. crowded.

[**puellula**, Karst. P. convexo-plane, subumb. even, glabrous, shining white; g. adnate, crowded, white; s. subequal, straight, elastic, white with blackish squamules; sp. 9—12 × 5—7.

Allied to *Clito. cerrusatus* but smaller and with black squamules on stem.

[**adsentiens**, Karst. P. convexo-plane, obtuse, even, at length scaly, white; g. adnate, closely crowded, white; s. short, base thickened, white with blackish scales; sp. — .

phyllophila, Fr. Whitish-tan. P. 3—7 cm. convexo-plane, umbil. not becoming pale, veil forming a silvery zone near margin; g. rather distant, white then pallid; silky-fibrous, tough, 5—8 cm.; sp. 6 × 4.

pithyophila, Fr. White. P. 3—7 cm. exp. umbil. glabrous, becoming shining white; g. crowded, permanently white; s. 4—5 cm. often compr. base downy; sp. — .

tornata, Fr. White. P. 3—5 cm. orbicular, subdepr. glabrous, shining; g. rather crowded; s. stuffed, glabrous, 3—4 cm.; 4—6 × 3—4 μ.

Very regular in form.

var. *opala*, Fr. White. P. viscid.

[**olorina**, Fr. Whitish. P. exp. even, glabrous; s. hollow, rigid, cylindrical, squamulose; g. subdecur. crowded.

candicans, Pers. White. P. 2—3 cm. plane or subdepr. umbil. with adpressed silkiness, shining white when dry; g. adnate then decur. crowded; s. 3—5 cm. subfistulose, cartilaginous, shining; sp. 5—6 × 4.

dealbata, Sow. White. P. 2—3 cm. plane then upturned and wavy, glabrous, rather shining; g. adnate, crowded, white; s. 2—3 cm. entirely fibrous, thin, equal, stuffed; sp. 4—5 × 2·5.

gallinacea, Scop. White, taste acrid. P. depr. even, dry, opaque; g. crowded, narrow; s. 2—3 cm. equal, even, solid; sp. — .

Differs from *C. dealbata* in dingy white, opaque p. and acrid taste.

** DIFFORMES. *Pileus fleshy at the disc, margin thin, umb. at first, then exp. depr. and irregular.*

decastes, Fr. Clustered. P. 10—25 cm. wavy, subumb. glabrous, uniformly dingy brown or livid, then pale; g. crowded, wavy, white; s. 9—16 cm. long, solid, glabrous, white, apex pruinose; sp. globose, 4—5.

subdecastes, Cke. and Mass. Clustered. P. 3—5 cm. convex, obtuse, ochre, paler towards lobed margin; g. crowded, white; s. 8—12 cm. fibrillose, whitish; sp. globose, 4—5.

ampla, Pers. P. 7—12 cm. convex then exp. wavy, sooty then livid, even; g. broad, smoky then dingy white; s. 9—14 cm. subcartilaginous, naked, white, apex somewhat downy; sp. — .

[**molybdina**, Bull. P. camp. exp. umb. glabrous, sooty, disc livid rufous, then pale; g. horn colour then pallid; s. stout, fibrillosely striate, mealy squamulose upwards, pallid.

[**coffeata**, Fr. P. brownish fawn then sooty grey, fawn colour and shining when dry, virgate or spotted; g. decur. dingy white, as is also the glabrous s.

aggregata, Schaeff. Tufted. P. 5—9 cm. wavy, greyish or reddish yellow, then pale, silkily virgate; g. yellowish flesh colour; s 7—10 cm. fibrillose, narrowed below and often grown together at base; sp. — .

[**hortensis**, Pers. Caespitose, elastic. P. exp. obsoletely umb. sooty, blackish; g. decur. white then flesh-colour; s. hollow, rather wavy.

[**tabescens**, Scop. (= *Coll. tabescens*, Fr.). P. conico-campan. exp. umb. depr. round umbo, tawny honey-colour, or tawny-brown, disc scaly; g. decur. pallid then pinkish tan; s. fibrillosely scaly, pallid or lurid yellow, elongated; sp. 8—10 × 5—7.

Closely resembling *Armillaria mellea*, but no ring on stem.

[**anapacta**, Pers. P. depr. wavy, brown, edge incurved; g. broad, dingy tan; s. narrowed below, pallid.

elixa, Sow. P. 5—9 cm. unequal, wavy, disc umb. smoky buff, edge paler; g. distant; s. 3—5 cm. solid, dingy, subfloccose; sp. 7 × 4.

fumosa, Pers. Tufted. P. 3—5 cm. subcartilaginous, obtuse, wavy, sooty brown then pale; g. adnate, livid; s. 5—8 cm. often twisted, dingy, apex minutely mealy; sp. subgl. 5—6.

Differs from *C. elixa* in obtuse, non-virgate p.

[**effocatella**, Viv. Caespitose. P. convex, even, glabrous, livid chestnut or umber; g. adnate, crowded, white; s. naked, ventricose below.

tumulosa, Kalchbr. Tufted. P. 2·5 cm. umb. even, umber then pale; g. soon greyish; s. 8—12 cm. solid, dingy, floccosely pruinose; sp. — .

pergamena, Cke. Tufted. P. 2—5 cm. convex then plane, subumb. pallid; g. broadly adnate with decur. tooth, white; s. 8—12 cm. whitish, apex squamulose; cartilaginous; sp. — .

[**humosa**, Fr. P. fragile, exp. wavy, fuscous; g. adfixed, both ends narrowed; s. short, whitish like the gills.

[**adunata**, Secr. Tufted, foetid. P. exp. gibbous then depr. white becoming spotted red then rufous, becoming viscid; g. decur. crowded, eroded, dingy red; s. stout, twisted, narrowed below, whitish.

cryptarum, Letell. Tufted. P. somewhat conical, flocculose, spotted brown; g. decur. narrow, white; s. white, striate.

A doubtful species.

[**hebepodia**, Fr. P. exp. depr. unequal, even, grey then pale; g. decur. white; s. woolly, white.

[**connata**, Schum. Shining white. P. conical exp. unequal, moist, obtuse umbo disappearing; g. unequally decur. narrow, crowded; stems numerous, hollow, collected at base into a tuberous mass.

opaca, Fr. White. P. 3—6 cm. umb. often depr. and wavy, minutely flocculose; g. closely crowded; s. 3—5 cm. fibrillose, wavy; sp. — .

Differs from *C. cerrusata* in umbonate p.

occulta, Cke. P. 3—5 cm. depr. virgate, viscid, disc smoky rest whitish; g. adnate, white; s. 3—5 cm. fibrillosely striate, solid, white; sp. — .

monstrosa, Sow. P. 3—5 cm. umb. wavy, opaque white; g. adnato-decur. creamy; s. 2—4 cm. opaque white, streaked; sp. — .

marzuola, Fr. P. compact, exp. subdepr. even, wavy, dusky; g. unequally decur.; s. stout, short, white.

* * * INFUNDIBILIFORMES. *Pileus fleshy at disc, thinner towards the margin, becoming deeply umbilicate or infundibuliform.*

† *Pileus coloured, or becoming pallid, silky.*

gigantea, Sow. (=*Pax. giganteus*, Fr.) P. 12—20 cm. infundib. whitish or tinged tan, edge coarsely striate; g. closely crowded; s. pallid, solid, glabrous, 3—5 cm.; sp. 5 × 3.

maxima, Fr. 12—25 cm. infundib. subumb. whitish or tinged tan, edge even; g. deeply decur.; s. 7—10 cm. compact, fibrillosely striate, whitish; sp. 6 × 4.

infundibiliformis, Schaeff. P. 4—7 cm. convex, umb. then infundib. yellowish pink then pale, innately silky; g. deeply decur.; s. 5—7 cm. thinner upwards, pallid; sp. 5—6 × 3—4.

var. *membranacea*, Fr. P. not umb.; s. equal; altogether more slender than type.

[**squamulosa**, Pers. P. obtuse, tan, squamulose, at first obtuse, deeply infundib.; g. decur. distant, white; s. narrowed upwards, elastic.

[**nauseosodulcis**, Karst. Very foetid when old. P. irregular, convex then plane, glabrous, often areolately squamulose, entirely clay-colour; g. decur. pallid; s. excentric, rarely central, usually unequal and curved, solid, whitish; sp. 7—8 × 5.

Connato-caespitose, resembling *Pleurotus sapidus*.

[**Panizzii**, Barla. Caespitose. P. convex then umbil. or infundib. white or grey, edge lobed, wavy; g. thin, narrow, striately decur. pale or tinged rose; s. long, wavy, white; flesh elastic, white.

trullaeformis, Fr. P. 4—5 cm. obtuse then infundib. edge spreading, greyish brown, floccossly villose; g. decur. connected by veins; s. 4—5 cm. striate, grey; sp. — .

Differs from *C. cyathiforme* in pure white flesh and gills.

incilis, Fr. P. 4—5 cm. plane then umbil. or infundib. margin silky, incurved, crenate, brick red; g. white then pallid, connected by veins; s. 1—2 cm. base narrowed, red; sp. 7 × 4.

[**pulla**, Gill. P. depr. then infundib. glabrous, hygr. brown then pale; g. united by veins, lilac grey; s. swollen at base which is downy, colour of p. white-fibrillose below, wavy.

Near *C. obbata*, which differs in striate margin, equal s. and distant gills.

[**lenticulosa**, Gill. P. exp. umbil. then infundib. dry, reddish orange, tuberculose near the even edge; g. crowded, white then tinged rose, finally colour of p.; s. solid, paler than p.

Differs from *C. lentiginosa* in solid s. and edge of p. not striate.

sinopica, Fr. Smell strong, mealy. P. 2—3 cm. brick red then

pale, plane then umbil. at length flocculose; g. closely crowded, white then yellow; s. red, fibrillose, 3—5 cm.; sp. — .

Differs from *C. incilis* in solid stem, even edge of p. and yellowish g.

[**Arnoldi**, Boud. P. depr. then infundib. wavy, subtomentose, minutely squamulose, ochrey brick-red; g. whitish; s. colour of p. fibrillose below; sp. 9—11 × 5—6.

[**lentiginosa**, Fr. P. plane, deeply umbil. with concentric zones of minute tubercles, yellowish ochre; g. deeply decur. yellow; s. hollow, equal, yellowish fuscous.

parilis, Fr. P. 1·5—2 cm. disc depr. edge involute, greyish white, ornately flocculose; g. narrow, greyish white; s. 2·3 cm. fibrous, sooty; sp. — .

†† *Pileus coloured or pallid, glabrous.*

geotropa, Bull. P. 5—12 cm. plane then infundib. obtusely umb. pallid; g. crowded, white then pallid; s. 7—12 cm. solid, fibrillose, flesh white; sp. 6—7 × 4—5.

[**candida**, Bres. Large. P. fleshy, plano-convex then depr. edge involute, even, pubescent, white becoming tinged tan; g. much crowded, narrow, attenuato-decur. white then pallid; s. stout, short, white; flesh white; sp. 7 × 3.

Close to *C. geotropa* and *C. gigantea*. Differs in pure white colour and in sp.

gilva, Pers. P. 5—8 cm. soon depr. and wavy, dingy ochre, flesh same colour; g. closely crowded, ochre; s. 2—2·5 cm. solid, ochre; sp. subgl. 4—5.

subinvoluta, Batsch. P. 5—8 cm. convex then depr. tinged brick red, fibrillose, zoned; g. pale tan; s. 4—5 cm. reddish, grooved; sp. — .

spinulosa, W. G. Sm. P. 3—5 cm. depr. gibbous, yellowish pink, edge even, incurved; g. white then pale yellow; s. 5—9 cm. fibrillose, whitish, zoned with tan; sp. globose, spinulose, 8—9.

splendens, Pers. P. 5—8 cm. plane then depr. or infund. pinkish-yellow, shining; g. deeply decur. white; s. 2—3 cm. glabrous, yellow; sp. — .

Differs from *C. gilva* in white flesh.

inversus, Scop. P. 5—9 cm. convex then infundib. edge involute, rufescent; g. soon tinged rufous; s. 4—6 cm. hollow, rigid, paler than p. flesh pallid; sp. subg. 4—5. Often tufted.

flaccidus, Sow. P. 5—8 cm. thin, flaccid, umbil. then infund. edge reflexed, tawny or rusty; g. yellowish; s. 3—4 cm. rusty, rather wavy; sp. 4—5 × 3—4. Often tufted.

var. *lobatus*, Fr. Tufted. P. darker, edge lobed.

[**rhodoleuca**, Rom. Fleshy, almost glabrous, in dry weather pure white except gills which are tinted rose; in rainy weather everywhere inside and out deep rose, gills darkest. P. obconic, convex or almost flattened above; sp. 6—9 × 5—6·5.

[**zizyphana**, Viv. P. convex then infundib. often excentric, rufous brown, flesh reddish white; g. yellow; s. equal, pallid.

[**cervina**, Hoffm. P. plano-infundib. oblique, glabrous, edge convex, greyish fawn, subzoned; g. pallid, edge darker; s. cylindrical, base tuberous.

[**garidelli**, Fr. P. convex, at first umbil. edge incurved, deep rose to flesh colour; g. decur. crowded, edge red; s. short, stout, flesh colour. Edible.

[**ambigua**, Karst. P. tough, orbicular, convex, obtuse, glabrous, even, pallid rufous tinged pink then pale; g. adnato-decur. pallid; s. glabrous, wavy, whitish, base woolly; sp. 4—5 × 3.

[**paropsis**, Fr. P. plano-depr. glabrous, edge spreading, flaccid, rufous or flesh-colour; g. narrow, shining white; s. cylindrical, base rather bulbous.

vermicularis, Fr. P. 3—5 cm. convex, umbil. then infund. edge incurved, often wavy, reddish tan then pale, flesh same colour; g. closely crowded, white; s. 3—4 cm. hollow, elastic, striate, paler than p.; sp. 5 × 3.

[**cacaba**, Fr. P. flaccid, infundib. glabrous, edge broadly reflexed, sooty; g. very deeply decur. closely crowded, dark grey; s. striate, base thickened, downy.

senilis, Fr. P. 4—5 cm. infundib. brownish tan, concentrically cracked, edge spreading; g. narrow, soon colour of p.; s. 2—3 cm. solid, glabrous, pallid; sp. 5—6 × 4.

††† *Pileus clear white.*

catina, Fr. P. 4—5 cm. plane then infundib. glabrous, white, discoloured when old; g. decur. somewhat crowded, white; s. 3—7 cm. elastic, white; sp. — .

C. infundibiliformis differs in not being umb. and in being glabrous. *C. phyllophila* differs in adnate gills.

tuba, Fr. White. P. 5—8 cm. umbil. margin even, shining with a silky lustre when dry; g. broad, closely crowded, decur.; s. 4—5 cm. equal, soon hollow and compressed; sp. — .

Differs from *C. pithyophila* in umbil. p.; g. deeply decurrent.

ericetorum, Bull. White. P. 2—3 cm. fleshy, subturbinate, glabrous, shining when dry; g. distant, connected by veins; s. 2—3 cm. glabrous; sp. — .

Resembling *Hygr. niveus* in appearance.

B. *Pileus thin, hygrophanous, soft, watery.*

**** Cyathiformes. *P. thin, depressed then cup-shaped. Colour dingy when moist.*

cyathiformis, Bull. P. 3—7 cm. deeply depr. edge incurved, sooty-brown then pale; g. dingy; s. 5—9 cm. stuffed, elastic, narrowed upwards, reticulately fibrillose, sooty; sp. — .

var. *cinerascens*, Fr. Smaller. P. pale grey-brown; g. tinged yellow.

expallens, Pers. P. 3—5 cm. plane then deeply depr. greyish brown then pale, margin soon expanded; g. greyish white; s. 4—5 cm. greyish white, hollow, equal; sp. — .

obbata, Fr. P. 2—3 cm. plane, umbil. then deeply depr. sooty brown, edge at length striate; g. decur. distant, greyish, pruinose with white; s. 4—5 cm. glabrous, greyish brown, hollow; sp. — .

[**fritilliformis**, Lasch. Convex-umbil. then infundib. glabrous, grey then pallid, becoming fuscescent when dry, edge sublobed; g. thickish, pallid; s. subtomentose, thickened upwards.

[**calatha**, Fr. P. exp. infundib. hygr. edge soon spreading, even, sooty; g. deeply decur. violet then reddish; s. solid, tough, striately rugose, narrowed below, violet then reddish.

pruinosa, Lasch. P. 4—5 cm. umbil. then deeply depr. brown, powdered with grey bloom; g. decur. crowded, narrow, dingy; s. 3—5 cm. fibrillose, pallid; sp. — .

concava, Scop. P. 3—5 cm. broadly and deeply umbil. flaccid, wavy, dark grey; g. decur. narrow, smoky; s. 2—3 cm. equal, glabrous, grey; sp. — .

[**vibecina**, Fr. P. exp. then infundib. greyish livid then pale, margin soon extended, striate; g. deeply decur. greyish white; s. hollow, glabrous, rather wavy.

[**Queletii**, Fr. P. convex, umbil. whitish with brown squamules when dry; g. deeply decur. whitish; s. flocculose, whitish.

suaveolens, Fr. Fragrant. P. 2—3 cm. convex then concave, discoid, buff, hygr. margin striate; gills crowded, pallid; s. 4—5 cm. thinner upwards, tinged brown; sp. 8 × 5.

Among grass. Differs from *C. fragrans* in concave pileus with striate margin.

brumalis, Fr. P. 1·5—2·5 cm. umbil. then deeply depr. flaccid, glabrous, wavy, livid, pale when dry; g. pallid; s. 4—5 cm. glabrous, whitish, often curved; sp. 4—5 × 3—4.

***** ORBIFORMES. *Pileus rather fleshy, convex then flattened or depressed, polished; g. adnate; dingy, becoming pale.*

† *Gills grey or olive.*

orbiformis, Fr. P. 4—5 cm. convexo-plane, even, smoky grey; g. greyish white; s. 5—7 cm. naked, narrowed upwards, grey; sp. — .

Differs from *C. cyathiforme* in plane p.

[**applanata**, Secr. P. exp. disc depr. flaccid, lurid then hoary; g. greyish white; s. fuscous with white down, pallid and silky fibrillose upwards.

[**insignis**, Gill. P. conical, convex, then exp. edge more or less wavy and upturned, much depr. round strong umbo, even, glabrous, red, umb. rusty; g. closely crowded, clear white; s. cylindrical, solid, colour of p.

[**papillata**, Gillet. P. convex then exp. with a little persistent brown umbo, glabrous, hygr. slightly striate, clear reddish; g. pallid; s. subequal, wavy, white-pruinose, apex colour of p.

[**radicellata**, Godey. P. convex, umbil. purplish brown, grey-pruinose; g. crowded, soon yellowish grey; s. equal, curved, colour of g. with a white bloom, base white with a number of branched strands.

[**ochracea**, Gill. P. irreg. umb. uniformly ochre, silky or pruinose; g. distant; s. excentric, colour deeper than p.

[**macrophylla**, Karst. P. thin, convex, orbicular, livid-white then paler and shining; g. adnate, very broad, triangular, white; s. wavy, whitish, glabrous, base thickened; sp. — .

[**lepiphylla**, Gill. P. convex then depr. uniformly pale grey then pallid; g. decur. tinged grey; s. elastic, wavy, grey, with a white bloom, with longitudinal whitish striae.

metachroa, Fr. P. 3—5 cm. convexo-plane then depr. brownish grey, then livid, at last pallid; g. pale grey; s. 2—3 cm. grey, apex mealy; sp. — .

zygophylla, Cke. and Mass. P. 4—7 cm. thin, wavy, slightly depr. greyish ochre then pallid, edge plicate; g. deeply decur. grey, veined; s. 4—5 cm. smooth, pallid; sp. 8 × 4.

pausiaca, Fr. P. 2—3 cm. soon plane, umber with olive tinge, often silky; g. adnate, olive; s. 4—6 cm. striate, coloured like p., apex powdery; sp. — .

ditopa, Fr. Smell strong, mealy. P. 2—3 cm. plane then depr. brownish grey then pale, often wavy; g. adnate, dusky grey; s. 2·3 cm. hollow; sp. — .

Differs from *C. metachroa* in mealy smell.

[**nubila**, Fr. P. exp. umb. livid then tan, glabrous; g. subdecur. rather distant, brownish tan; s. slender, apex pruinose.

[**obola**, Fr. P. convexo-plane, obtuse, glabrous, hygr. livid then whitish; g. adnate, livid; s. equal, thin, striate, naked, livid.

†† *Gills whitish.*

diatreta, Fr. P. 2—4 cm. plane then depr. edge involute, pubescent, often wavy, flesh colour then pallid tan; g. with an acute decur. tooth, crowded, narrow; s. 3—5 cm. pallid, straight, terete; sp. — .

fragrans, Sow. Smell strong, spicy, 2—3 cm. depr. pallid; g. subdecur. rather crowded; s. 4—5 cm. elastic, glabrous; sp. — .

C. suaveolens differs in cup-shaped p. and brownish stem.

angustissima, Fr. P. 4—5 cm. plano-depr. edge spreading, pallid, shining white when dry; g. subdecur. narrow, closely crowded; s. 4—5 cm. white, naked, flexuous; sp. 5 × 3.

[**isabellina**, Q. P. yellowish white, umb. hygr.; g. thick, often branched, whitish; s. fistulose, wavy, white, base narrowed.

obsoletus, Batsch. Smell spicy, but weak. P. 2—3 cm. plano-depr. even, pale pinky tan, pale when dry; g. obtusely adnate, broad; s. 2—3 cm. elastic, soon hollow, whitish; sp. — .

[**mortuosa**, Fr. P. plano-depr. umber or brown then pale, even; g. adnate, closely crowded, narrow, whitish; s. short, glabrous, compr. whitish.

[**gyrans**, Fr. P. convex-umb. even, glabrous, hygr. edge broadly incurved, whitish; g. crowded, white; s. hollow, glabrous.

* * * * * * VERSIFORMES. *Pileus thin, convex then deformed, squamulose or furfuraceous; g. adnate, broad; usually distant and powdered with the white spores.*

ectypa, Fr. P. 4—7 cm. exp. then depr. revolute, dingy yellow or rufescent, slightly streaked with dark fibrils, edge slightly striate; g. adnate, pallid then spotted with red and powdered with the spores; s. 5—10 cm. dingy yellowish, fibrillose; sp. 9 × 6.

[**difformis**, Pers. P. convex, plane, subumbil. glabrous, hygr. striate when moist, even when dry, at length subsquamulose, livid then whitish; g. adnate, distant; s. hollow, glabrous, shining.

var. *stygia*, Fr. P. campan. umbil.; g. adnexed, ventricose; s. long, slender.

[**incompta**, Fr. P. plane then depr. blackish olive, virgate with adglutinated blackish fibrils, viscid; g. pale grey; s. fibrillosely striate, grey.

[**xanthophylla**, Bres. P. convex-umbil. dry greyish-hoary, virgate especially at centre with brownish fibrils; g. decur. clear yellow; s. greyish-white, fibrillose.

[**nigropunctata**, Secr. P. exp. umb. whitish, mealy, disc dotted with black; g. crowded, pallid then yellowish; s. hollow, striate with black.

[**pachyphylla**, Fr. P. convexo-plane, dingy yellow or rufescent, floccosely squamulose; g. thick, distant, yellow; s. tough, yellow.

var. *absinthiata*. P. scurfy-squamulose, brown-ochre; g. very broad, grey then pallid.

bella, Pers. P. 2—3 cm. exp. depr. or umbil. orange yellow with darker squamules; g. yellow, connected by veins, mealy; s. 4—5 cm. yellowish; sp. 6—7, subgl. warted.

laccata, Scop. (=*Laccaria*, B. and Br.). P. exp. subumbil. irreg. mealy subsquamulose, violet or brown, whitish when dry, 2—4 cm.; g. thick, distant, coloured like p., mealy; s. 4—7 cm. fibrous, colour of p.; sp. globose, warted, 8—9.

proxima, Boud. P. 2—3 cm. convex then plane, glabrous, yellowish-brown; g. adnato-decurrent, pinkish; s. 6—7 cm. even, smooth, paler than pileus; sp. 7 × 3·5.

Resembling the brown form of *C. laccata*, differing in the elliptical, warted spores and glabrous pileus.

[**sandicina**, Fr. P. convexo-plane, umbil. deformed, even, hygr. at length greyish-mealy; g. adnate, crowded, purplish, almost naked; s. hollow, unequal, glabrous, purplish.

[**grumata**, Scop. P. campan.-convex, glabrous, cracked into squamules, disc depr. yellow; g. broadly adnate, distant, white; s. equal, pallid.

sadleri, Berk. This is only an abnormal condition of *Hypholoma fasciculare*.

OMPHALIA, Fr.

I. Collybiarii. *Pileus expanded from the first, edge incurved.*

* *Usually large, gills narrow, closely crowded.*

hydrogramma, Fr. Livid white, white when dry. P. 4—7 cm. flaccid, thin, umbil. hygr. edge spreading, striate; g. closely crowded; s. 6—8 cm. base rooting; sp. — .

Differs from *Clito. phyllophila* in polished stem.

[**chrysoleuca**, Fr. P. very thin, umbil. shining, white, edge reflexed, substriate; g. yellowish; s. smooth, base thickened; sp. 8—10 × 4.

[**ventosa**, Fr. P. infundib. glabrous, flaccid, flesh-colour, hygr.; g. white then flesh-colour; s. colour of p.

[**dumosa**, Fr. P. very thin, plane, subumbil. rigid, deep brick-red; g. pallid; s. glabrous, colour of p.

detrusa, Fr. P. 2—3 cm. rather fleshy, umbil. dark grey; g. with a decur. tooth, whitish; s. 2—3 cm. glabrous, dark grey; sp. — .

[**umbilicata**, Fr. P. umbil. then infundib. edge reflexed, even, hygr. tinged brown, then pale but disc darker; g. whitish; s. terete, apex striate with white fibrils; sp. 6—8 × 4.

maura, Fr. P. 2—4 cm. thin, deeply umbil. hygr. striate, sooty brown, pale and silky when dry; g. shining white; s. 3—5 cm. rigid, straight, blackish; sp. 5—6 × 3—4.

Differs from *Col. atrata* in decur. narrow gills.

[**lituua**, Fr. P. thin, plane, deeply umbil. hygr. even, bay then tan; g. grey; s. slightly wavy, grey.

offuciata, Fr. P. 2—3 cm. plano-depr. flesh-colour then pale; g. colour of p.; s. 4—5 cm. glabrous, reddish; sp. — .

[**scyphoides**, Fr. Shining white. P. infundib. silky, unequal; g. narrow; s. subvillose, short; sp. 6 × 2.

[**albula**, Q. P. umbil. thin, wavy, glabrous; s. solid, slender, incurved; g. adnato-decur. unequal, yellowish; sp. 10—12 long.

[**Giovanellae**, Bres. P. thin, convex and umbil. then exp. and umbil., edge striate, silky-flocculose, grey then hoary brown; g. decur. crowded, colour of p.; s. glabrous, colour of p.; sp. 8 × 3.

Differs from *Omp. scyphoides* in hoary-grey colour of every part.

** *Medium size; gills rather distant, narrow, narrowed at both ends.*

chrysophylla, Fr. P. 2—4 cm. thin, umbil. flaccid, floccose, brownish yellow then paler, edge reflexed; g. deep golden yellow; s. 3—5 cm. yellow; sp. 8 × 4.

Differs from *O. Postii* in the floccose pileus.

Postii, Fr. P. 2—3 cm. thin, umbil. glabrous, orange; g. whitish; s. 4—6 cm. glabrous, yellow; sp. — .

var. *aurea*, Mass. P. very regular; g. slightly decur.; sp. 7 × 3·5.

vesuviana, Brig. P. infundib. orange, edge at length wavy; g. thickish, narrow; s. fibrillose, colour of p.

pyxidata, Bull. P. 1·5—2 cm. thin, infundib. rufous-red, radiately striate, pale when dry, hygr.; g. flesh-colour then yellowish; s. 1·5—2 cm. tough, pale tawny; sp. 7—8 × 5—6.

leucophylla, Fr. P. 3—4 cm. thin, quite infundib. dark grey, even; g. shining white; s. 3—5 cm. grey; sp. 10 long.

Luffii, Mass. Fragrant. P. 2—3 cm. convex then depr. glabrous, pallid then white; g. crowded, decur. pallid; s. 2—3 cm. solid, pallid, polished, often wavy; sp. 5 × 3.

Ground among grass &c. Differs from *Clito. fragrans* in short, polished stem.

costatula, Bres. P. infundib. then revolute, brown, glabrous, edge striate wavy; g. decur. straw-colour, joined by veins; s. glabrous, tinged straw-colour, base brownish; sp. 6 × 4.

striaepileus, Fr. P. 2—3 cm. plane, umbil. glabrous, entirely striate, livid brown, hygr.; g. white; s. 4—5 cm. tough, tinged brown; sp. rough, 6—7.

Nevillae, B. P. 1—1·5 cm. depr. rugose, disc granulated, striate, brown then pale; g. white, veined; s. 2—3 cm. brownish, rough, base downy; sp. — .

O. affricata differs in scaly p.

sphagnicola, B. P. 2—3 cm. thin, soon deeply umbil. squamulose, dingy ochraceous; g. dingy ochre; s. 3—4 cm. slightly flexuous, colour of p.; sp. 6 × 3.

telmatiaea, B. P. 3—7 cm. thin, pliant, soon infund. edge arched and drooping, umber, hygr. pale and silky when dry; g. pallid; s. 2—4 cm. grey, base cottony, white; sp. 7 × 4.

[**affricata**, Fr. P. umbil. then infundib. not striate, edge bent down, everywhere with blackish squamules; g. grey; s. glabrous, greyish.

[**epichysia**, Pers. Soft. P. thin, exp. umbil. sooty grey, pallid when dry, silky or floccosely scaly; g. plano-decur. whitish then grey; s. grey; sp. 8—10 × 4—5.

philonitis, Lasch. P. 1—2 cm. deeply umbil. edge erect, hygr. floccose when dry, grey; g. deeply decur. greyish; s. 3—5 cm. glabrous, grey; sp. 5—7 × 3·5.

Differs from *O. oniscus* and *O. epichysium* in erect margin of p.

[**campestris**, Rom. P. campan. umbil. then exp. sooty-fuscous, sulcate when dry; g. greyish-white, decur.; s. equal, glabrous, colour of p. Appearing late in the season; glabrous; sp. 9—13 × 6—8.

oniscus, Fr. P. 1·5—2·5 cm. thin, infundib. wavy, flaccid, glabrous, even, grey; g. grey; s. 2—3 cm. wavy, grey; sp. 6 × 5.

[**oniscoides**, Karst. P. convex-umbil. sometimes reflexed and concave, glabrous, everywhere pellucidly striate, sooty or livid fuscous, pallid grey when dry; g. adnate, then subdecur. white or greyish, edge denticulate, s. tinged fuscous, base darkest; sp. 5—6 × 4.

caespitosa, Bolt. P. 1—2 cm. thin, hemisph. umbil. sulcate, whitish ochre; g. whitish; s. 1—2 cm. coloured like p., base thickened; sp. 6 × 5.

[**arenicola**, Fr. P. thin, cup-shaped, wavy, with wart-like spots, umber; g. paler than p.; s. short, umber.

glaucophylla, Fr. P. 1—1·5 cm. infundib. plicato-striate, hygr. mouse-colour then paler; g. olive; s. stuffed, firm; sp. — .

rustica, Fr. P. 5—8 mm. thin, slightly convex, umbil. striate, hygr. greyish brown then paler and silky; g. grey, edge arcuate; s. 2—2·5 cm., colour of p.; sp. — .

Differs from *O. umbellifera* by gills being narrowed behind.

[**scyphiformis**, Fr. White. P. infundib. glabrous; g. decur. thin; s. thin, short, glabrous.

Differs from *O. scyphoides* in glabrous stem.

** * * Gills truly distant, broad, usually thick.*

[**tricolor**, A. and S. P. ochraceous white, thin, umbil.; g. orange, at first with rosy pruinose; s. yellowish.

[**cortiseda**, Karst. P. convex then plane, radiato-striate, glabrous, pallid; g. adnato-decur. very distant, thickish, few, pallid; s. equal, hyaline, pallid; sp. 10—11 × 4—6.

[**sciopoda**, Q. P. convex then umbil. rather crisped, pale straw-colour, pruinose; g. adnate, thick, sometimes branched, straw-colour then tinged rose; s. slender, wavy, velvety-pruinose, white above, grey below.

demissa, Fr. P. 1—1·5 cm. thin, plane then umbil. striate, shining rufous then pale; g. purplish; s. 1 cm., colour of p.; sp. 7 × 5. (10—12 × 6—8 Sacc.)

[**grisella**, Karst. P. convex, disc depr. silky, sulcate, pale fuscescent, whitish when dry; g. adnate, distant, plane, whitish; s. equal, glabrous, apex pruinose, pale, becoming more or less smoky; sp. 6—10 × 2—4.

hepatica, Fr. P. 1·5—2·5 cm. tough, rigid, infundib. glabrous, brownish flesh-colour then pale; g. narrow, whitish, connected by veins; s. 2 cm. very tough, colour of p.; sp. 5—8 × 2—4.

Differs from *O. pyxidata* in toughness, even edge of p. and pallid gills.

muralis, Sow. P. 1—2 cm. becoming infundib. radiato-striate, rufous brown; g. pallid; s. 1—1·5 cm. glabrous, coloured like p.; sp. rough, 10 × 5.

[**cuneifolia**, Karst. Very fragile. P. convex then plane, obtuse, dry, glabrous, pellucidly striate when moist, sooty, tan when dry; g. adnate, distant, thickish; broad, ventricose or broadest in front, obliquely truncate, greyish; s. apex scurfy, solid; sp. 10—12 × 9—10.

[**lilacina**, Laest. P. plane, violet then pale; g. deeply decur. connected by veins, yellow; s. persistently violet.

umbellifera, L. P. 1—2 cm. convexo-plane, radiately striate, even and rather silky when dry, grey, yellow, brownish, pallid, &c.; g. very distant and broad behind, colour of p.; s. 1 cm. colour of p.; sp. 3 × 2·5.

var. *myochroa*, Fr. P. brownish umber; s. strigosely rooting.

var. *abiegena*, B. and Br. Pale yellow.

var. *viridis*, Fl. Dan. Every part pale green.

[**Kalchbrenneri**, Bres. P. tough, convex, umbil. subexp. glabrous, hygr. subochre; g. deeply decur. whitish; s. colour of p., base often brownish; sp. 8—10 × 4—5.

[**velutina**, Q. Downy, greyish. P. umbil. striate; g. arcuate; s. filiform, base white floccose; sp. 8 long.

infumata, B. and Br. P. 3—4 mm. obtuse, greenish then smoky; g. few, broad, yellow; s. 2 cm. thin, yellow, tomentose below.

[**griseolilacina**, Steinh. Entirely greyish lilac, grey when dry; p. umb. then exp. edge incurved, even, glabrous; g. adnate then decur.; s. cylindrical, equal; sp. 6—9 × 4—5.

buccinalis, Sow. White. P. up to 1 cm. trumpet-shaped, plane or depr.; g. deeply decur. triangular; s. expanding into p.; sp. — .

[**hirsuta**, Q. (= *O. caricicola*, Lasch). Hyaline-white, soon flaccid. P. umbil. convex, very thin; gills or folds obliterated; s. capillary, short, pilose, base bulbillose; sp. rough, 9 long.

retosta, Fr. P. 1—2 cm. plano-depr. umber, polished and pale when dry; g. distant, broad, narrowed at both ends, paler than p.; s. 2 cm. glabrous, paler than p.; sp. — .

Differs from *O. umbellifera* in having gills narrowed behind.

abhorrens, B. and Br. Foetid. P. 1—1·5 cm. umbil. brown then pale; g. narrow, pale; s. 2 cm. slender, apex thickened, colour of p.; sp. — .

pseudoandrosacea, Bull. P. convex, umbil. then infundib. plicate, edge crenulate, whitish or grey; g. deeply decur. segmentoid; s. slender; sp. 5—7 × 3—4.

griseo-pallida, Desm. P. plane, umbil. even, glabrous, brownish grey then pale; g. broadest behind, grey; s. stuffed, fuscous, 1 cm.; sp. — .

Differs from *O. umbellifera* and *O. rustica* by p. not being striate when moist.

albidopallens, Karst. P. convex, orbicular, scarcely umbil. pellucidly striate, naked, hyaline white or pallid; g. adnate, decur. crowded, pallid; s. equal, naked, pallid; sp. 4—5 × 3.

[**schizoxylon**, Fr. P. thin, almost plane, umbil. glabrous, grey; g. narrow, paler than p.; s. rufous brown.

[**bibula**, Q. P. umbil. when moist, silky, olive-yellow then grey; g. arcuate, broad, citrin; s. tinged citrin.

Near to if not identical with *Hygr. Wynniae.*

stellata, Fr. White. P. convex, umbil. diaphanous, striate; g. very distant, thin, broad; s. equal, base radiately floccose; sp. 4 × 6.

II. Mycenarii. *P. at first campanulate, margin straight, adpressed to stem.*

* *Gills broad, perfect, unequal.*

campanella, Batsch. P. 1 cm. convex, umbil. striate, hygr. rusty yellow; g. connected by veins, arcuate, yellow; s. 2—3 cm. horny, bay, base narrowed, tawny-strigose; sp. 6—7 × 3—4.

var. *badipus*, Cke. Base of s. slightly bulbous.

var. *papillata*, Fr. P. acutely conical.

var. *myriadea*, Kalchbr. Small, caespitose.

[**incomis**, Karst. P. convex, umbil. glabrous or broken up into squamules, pale fuscous; g. adnato-decur. broad, white; s. tough, thinner below, colour of p.; sp. — .

[**psilocyboides**, Karst. P. convex, umbil. glabrous, tawny yellow; g. very broad, yellowish-white; s. 8—12 cm. equal, bay, white-fibrillose, apex paler and pruinose; sp. — .

[**brunneola**, Q. Chestnut umber. P. umbil. squamulose; g. arcuate, white; s. floccosely punctate, base with spreading fawn-coloured down; sp. 10.

[**atripes**, Rab. P. thin, plano-depr. infundib. brown, pale and silky shining when dry; g. very broad behind, brownish, albo-pruinose; s. black, base bluish-pruinose.

[**Laestadii**, Fr. P. hemispherical, umbil. even, tawny-bay, shining; g. distinct, yellow; s. rigid rufous bay.

picta, Fr. P. 1 cm. campan. cucullate, umbil. glabrous, striate, fuscous; g. very broad, pallid; s. horny, bay, membranous spreading base tawny; sp. 7—10 × 4.

camptophylla, B. P. 1 cm. convex then exp. deeply striate, disc brown, rest pale grey; g. ascending then abruptly decur. white; s. 3—4 cm. very slender, whitish, base radiately strigose; sp. 8—10 × 6—8.

[**cyanophylla**, Fr. P. thin, camp. umbil. striate, livid or bluish becoming yellowish; g. clear blue; s. glabrous; sp. 5—7 × 3—4.

[**Cornui**, Q. P. umbil. tawny; g. yellow with violet tinge; s. horny, bay, base inflated, downy, yellow.

[**reclina**, Fr. P. thin, rigid camp. then entirely infundib. livid; g. thick, white or grey; s. tough; sp. 6 × 4—5.

[**deflexa**, Karst. P. campan.-convex, mostly umbil. everywhere striate, fuscescent or pale livid, pale when dry; g. decur. arcuate, white; s. solid, tough, pallid, glabrous; sp. 6—7 × 4—6.

umbratila, Fr. P. 2 cm. thin, campan. then convex, umbil. umber brown, hygr.; g. broad, brownish; s. 3—4 cm. stuffed, brownish; sp. 7 × 5.

Readily mistaken with *Coll. atrata* and *C. ambusta*, differs in subdecur. gills.

[**invita**, Karst. P. convex, umbil. glabrous, striate when moist, sooty or livid sooty, pale when dry; g. adnate, very broad, white; s. colour of p.; sp. glob. 5—6.

grisea, Fr. P. 1—1·5 cm. camp. glabrous, everywhere striate, livid grey then hoary; g. distant, greyish; s. greyish-white, apex thickened, 5—7 cm.; sp. 7—8 × 4.

[**setipes**, Fr. P. convex, subpapillate, everywhere striate, brownish-grey; g. greyish white, connected by veins; s. filiform, base pubescent; sp. 6—7 × 2—3.

fibula, Bull. P. up to 1 cm. cucullate then exp. umbil. striate, orange yellow then pale; g. deeply decur. pale; s. 3—4 cm. very slender, weak, pale orange; sp. 4—5 × 2.

var. *Swartzii*, Fr. Apex of stem violet.

[**chlorocyanea**, Pat. Small, entirely bluish green outside and inside. P. convex, g. distant, decur. unequal; s. solid, slender.

directa, B. and Br. P. 2—3 mm. nail-shaped flat at apex, white; g. decur. white; s. rather wavy, 2 cm. whitish, tinged rufous, with long hairs at base.

belliae, Johnst. P. 1 cm. thin, dry, top-shaped, infundib. pallid; g. decur. thick, veined; s. 2—3 cm. brownish, adhering by a cottony base.

[**pectinata**, Rom. Entirely white, glabrous, hygr. P. thin, convex, umbil. edge wavy or lobed, sulcate to middle; g. decur. distant; s. subequal, almost glabrous; sp. 6—7 × 3.

gracillima, Weinm. Snow-white. P. 4—5 mm. downy, sulcate; g. decur. distant, thin; s. 1·5 cm. filiform, base cottony; sp. 6—7 × 3.

[**gracilis**, Q. Snow-white. P. apiculate, striato-sulcate, glabrous; g. arcuate, distant; s. filiform, pellucid, pruinose, base downy, rooting; sp. 8 × 2.

[**candida**, Bres. Shining white. P. thin, convex, exp. often papillate, glabrous, pellucidly striate; g. deeply decur. connected by veins at base; s. splitting into fibres, glabrous, base rooting, strigose; sp. 9—11 × 4·5—5.

bullula, Brig. White. P. 3—4 mm. even, hemisph. diaphanous; g. arched, decur.; s. 2 cm. filiform.

** *Gills fold-like, narrow.*

integrella, Pers. White. P. 3—7 mm. hemisph. then exp. pellucid-striate; g. equal, fold-like, distant, rather branched; s. very slender, pubescent; sp. 6—7 × 4.

[**microscopica**, Wirt. Minute, diaphanous. P. 3—4 mm. infundib. 4—6, sulcate; g. very narrow, arcuate; s. capillary.

polyadelphus, Lasch. Pure white. P. 2—3 mm. coarsely striate and minutely flocculose; g. decurrent; s. 1—2 cm. very slender, base downy; sp. 5 × 2·5.

[**cuspidata**, Q. Hyaline white. P. very acuminate, striate, flocculose; g. decur. branched; s. filiform, pulverulent, the slight bulb hairy; sp. 8 long.

[**crispula**, Q. White, diaphanous. P. crisped, pruinose; g. wrinkled, very thin; s. short, filiform, pruinose; sp. 8 long.

[**gibba**, Pat. (= *Cyphella infundibuliformis*, Fr.). White, minute. P. trumpet-shaped, gibbous then deeply infundib. downy; g. mere traces of folds; s. slender, downy.

PLEUROTUS, Fr.

A. Excentrici. *Pileus entire, extended laterally, excentric but not truly lateral.*

* *Veil forming a ring on the stem.*

corticatus, Fr. P. 8—18 cm. convex then exp. covered with dense greyish down then floccosely squamulose; g. decur. white, anastomosing behind; tinged yellow when old; s. 3—7 cm. subexc. rooting, ring torn; s. 9—14 × 4—6.

[**Albertinii**, Fr. P. convex, dimidiate, sooty, with black squamules; g. decur. distinct, white; s. with black squamules up to sooty ring.

dryinus, Pers. P. 5—9 cm. oblique or subcircular, hard, whitish with brownish spot-like squamules, flesh white then yellowish; g. decur. not anastomosing behind, white tinged yellow; s. 2—3 cm. sublateral, ring fugacious, torn; sp. 10 × 4.

Differs from *P. corticatus* in gills not anastomosing behind.

spongiosus, Fr. P. 5—8 cm. spongy, pulvinate, greyish tomentose; g. sinuato-adnexed, white, simple; s. 1—3 cm. tomentose, white, ring white, soon torn; sp. 8—10 × 4.

[**calyptratus**, Lindbl. P. soft, lateral-dimidiate, horizontal, reniform, glabrous, viscid, sooty or livid; g. adnate to a nodule, crowded, white then yellowish; s. a downy nodule, viscid membranous ring torn.

* * *Gills sinuate or obtusely adnate.*

ulmarius, Bull. P. 8—15 cm. convex then plane, glabrous, livid then pale, spotted; g. adnexed, broad, whitish; s. 1—3 cm. base thickened, tomentose; sp. 5—6, glob.

tessulatus, Bull. P. 7—10 cm. convex then plane or depr. behind, glabrous, tawny then paler and spotted; g. uncinato-adnate. white then yellowish; s. 1—3 cm. glabrous; sp. — .

[**pardalis**, Schulz. Caespitose. P. fleshy, convex, subcentral, glabrous, chestnut then spotted; g. free, crowded, pallid; s. stout, solid, connate at base, white.

[**decorus**, Fr. Yellow. P. thin, convex then exp. obtuse, rough with adnate blackish scales; g. obtusely adnate, crowded; s. stuffed then hollow, fibrillose; sp. glob. 6.

[**ornatus**, Fr. P. convexo-plane, umb. with rusty floccose squamules that disappear; g. adnate, very broad, yellow; s. spongy, yellow; sp. 6 long.

[**properatus**, C. Mart. P. membranous, form various, always

umbil. central or excentric, yellowish white with concentric brown scales; g. adnato-decur. tinged yellow, edge eroded; s. cylindric with concentric brown scales, ring membranaceous, fugacious.

subpalmatus, Fr. P. 7—12 cm. Caespitose. Convex then depr. rugulose, rufescent, cuticle gelatinous; g. adnate, connected behind, dingy; s. 3—4 cm. incurved; sp. — .

Remarkable for the variegated flesh.

[**coripellis**, Fr. P. rigid, glabrous, moist, somewhat bay, thick pellicle separable, disc compact, umb.; g. arcuato-adnate, plane, crowded, white; s. excentric, vertical, rigid, fibrillosely striate, whitish.

P. almost black but fawn or yellow-brown when dry. Flesh tinged fuscous.

craspedius, Fr. Caespitose. P. 8—14 cm. thin, crenate or lobed, brick-red or paler, glabrous; g. adnate, narrow, crowded, white; s. 4—7 cm. solid, elastic, glabrous, pallid: sp. 5.

fimbriatus, Bolt. P. 4—7 cm. thin, plane then depr. margin sinuate or lobed, hygr. hyaline, whitish; g. adnate, closely crowded, white; s. 2—3 cm. firm, compr. downy; sp. — .

lignatilis, Fr. Whitish. P. tough, convex then plane, umbil. irreg. floccosely pruinose then glabrous; g. adnate, crowded, narrow, shining white; s. irreg. rather downy; sp. 4 × 3.

var. *tephrocephalus*, Fr. P. more compact, disc black then grey, edge white.

Ruthae, B. and Br. P. 3—7 cm. more or less fan-shaped, whitish or yellowish-buff, cuticle gelatinous, rather hispid; g. anastomosing behind, white then reddish, veined; s. 1—3 cm. reddish, hispid; sp. — .

Differs from *P. pantoleucus* in g. anastomosing behind, and not decurrent.

circinatus, Fr. White. P. 5—7 cm. plane, orbicular, silky-pruinose; g. adnato-decur. crowded; s. 2—5 cm. equal, glabrous, rooting; sp. — .

[**olearius**, D. C. Caespitose. P. subexcentric plane or umbil. dry, reddish tawny or deep brown; g. decur. narrow, yellow; s. solid, firm, reddish-brown; sp. 5 × 4.

Gills phosphorescent.

var. *carpini* (= *P. carpini*, Fr.). P. convexo-exp. angular, rivulosely scaly when dry; s. slender, short, excentric or lateral; g. adnexed, thin, rusty.

[**juglandinus**, Kalchbr. P. plano-convex, even, glabrous, dingy golden-yellow, rather lobed; g. decur. distant, ends narrowed; s. excentric, solid, brown-pilose; sp. 5·5 × 2·5.

* * * *Gills decurrent; stem almost vertical.*

[**aquifolii**, Fr. P. rather wavy, soft, convex then plane, dusky tan; g. thick, dusky, joined in a ring behind; s. stout, equal, white. Edible.

[**eryngii**, D. C. P. fleshy, tough, exp. depr. irreg. rufous-grey, scabrid-virgate; g. broad, tinged pink; s. naked, whitish, solid; sp. 7—9 × 3·5.

[**nebrodensis**, Inzeng. P. compact, convex then depr. even, glabrous, grey; g. decur. whitish; s. solid, excentric or lateral, short, ascending, whitish.

[**nauseosodulcis**, Karst. P. soft, irreg. unequal, exp. even, glabrous, entirely tan; g. decur. crowded, pallid; s. excentric, rarely central, solid, tomentose, whitish; sp. 7—8 × 5.

sapidus, Kalchbr. Caespitose. P. fleshy, deformed, centre depr. glabrous, pallid; g. decur. whitish; several stems springing from a common base; sp. 11—12 × 4.

More or less trumpet-shaped. Edible.

[**cornucopoides**, Pers. P. very variable in form, convex, depr. glabrous, white then livid yelllow; g. decur. white; s. subexcentric to lateral, expanding into p.

[**lingulatus**, Paulet. P. dimidiate or entire, umbil. convex, deformed, even, pale ochre, edge incurved; g. subdecur. closely crowded, paler than p.; s. solid, long, subcompr. white; sp. 10—12 long.

[**melanopus**, Fr. P. excentric or dimidiate, deformed, somewhat lobed, glabrous pale rufous; g. decur. crowded, narrow, whitish red; s. solid, glabrous, ascending, black.

[**spodoleucus**, Fr. P. plane, orbicular, even, glabrous, greyish; g. crowded, white, separate behind; s. solid, glabrous, paler than p.; sp. 5—6 × 2—3.

pantoleucus, Fr. White. P. 4—7 cm. even, glabrous, spathulate, depr. behind, marginate; g. crowded, distinct at base; s. 1—2 cm. ascending, glabrous, not rooting; sp. 11—12 × 4.

Differs from *P. spodoleucus* in pileus being white and depressed behind.

[**pometi**, Fr. White. P. fleshy, rather flaccid, convex, even, disc depr.; g. decur. crowded, not joined behind; s. elastic with a downy rooting base; sp. 6—9 × 3—4.

[**Battarrae**, Q. White. P. cyathiform, spotted with blackish brown squamules; g. milk-white; s. slender, attenuated; sp. 12 long.

[**lignicola**, Sacc. White. P. tough, irreg. exp. subumbil. floccosely pruinose; g. adnato-decur. crowded, shining white; s. long, incurved, flocculose at first; sp. 14 × 4.

mutilus, Fr. White. P. 2—2·5 cm. fleshy, irreg. silky when dry; g. narrow, simple; s. 1—2 cm. long, terete, base downy; sp. — .

Resembles *Omph. scyphoides*. Differs in nearly glabrous, irreg. p. not becoming infundib.

[**macropus**, Bagl. Large, caespitose. P. excentric, exp. glabrous, sooty-grey; g. decur. white; s. joined at base, firm, long, thickly tomentose.

[**luteo-caesius**, Bagl. P. subexcentric, exp. fibrillosely rivulose, tawny brown, edge wavy, incurved; g. subdecur. narrow, greyish yellow; s. solid, fibrillose, long rooting.

[**lutincola**, Lasch. Caespitose, fuscous; p. glabrous; g. adnate with a tooth running down stem to torn ring; s. often excentric.

[**pulvinatus**, Pers. P. pulvinate, rather wavy, glabrous, whitish, disc tinged flesh-colour; g. decur. crowded, white; s. very short, solid, hard.

* * * * *Veil absent; gills deeply decur.; pileus lateral, sessile or produced behind into a short stem-like base.*

ostreatus, Jacq. Tufted. P. 7—15 cm. fleshy, shell-shaped, ascending, blackish then grey or pallid; g. rather distant, anastomosing behind, pallid; s. widening into p. very short, downy or strigose at base; sp. 10—12 × 4—5. Esculent.

var. *euosmus*, B. Smell strong. Gills and spores tinged pink.

var. *columbinus*, Q. P. dark bluish-grey.

var. *nudipes*, Boud. S. quite glabrous.

[**ambiguus**, Oud. Excentric. P. sessile or shortly stalked, shining, blackish or deep violet, edge incurved; g. deeply decur. anastomosing behind, lilac; s. firm, elastic, thickened upwards, base strigose.

revolutus, Kickx. P. 9—15 cm. fleshy, firm, elastic, shining, depr. behind, smoky-yellow then grey, edge incurved; g. serrulate, white; s. 2—3 cm. short, thick, whitish; sp. — .

var. *anglicus*. Edge of p. not or very slightly incurved; g. pallid ochraceous.

[**Staringii**, Oud. Excentric. P. lateral, produced at base into a short oblique stem, suborbicular or reniform, exp. very glabrous, smoky fuscous, centre paler; g. white, anastomosing behind.

salignus, Pers. P. 4—9 cm. fleshy, spongy, becoming depr. behind and strigose, horizontal, yellow brown or dusky; g. somewhat branched, edge eroded, dingy; s. short, firm, tomentose; sp. 8—11 × 3—4.

[**Saccardianus**, Arc. Subexcentric, usually sinuately lobed, even, glabrous, at length exp. and wavy, tan or grey; g. narrow, thin, crowded; s. striate, glabrous, grey or umber; sp. 6—5 × 3—4.

[**roseocinereus**, Allesch. P. thin, campan. edge becoming split and striate, fibrously silky, rosy-grey; g. very broad, pallid flesh-red; s. shining white, fibrously striato-sulcate; sp. pale rufous, 5—7.

acerinus, Fr. White. P. 3—8 cm. tough, circular, silky-villose; g. closely crowded, white then yellowish; s. subobsolete, downy; sp. — .

[**pathenopejus**, Comes. Large, caespitose. P. excentric, generally dimidiate, conchate, elliptical or rounded, mouse-grey then pale, viscid, squamulose; g. deeply decur. base anastomosing, white then tinged yellow; sp. 9—12 × 4—6.

[**Gemmellari**, Inzeng. Large, sessile. P. lateral, convex then exp. yellowish, striate, upper stratum gelatinous; g. decur. broad, anastomosing behind, white then sulphur.

B. Dimidiati. *P. definitely lateral, without a free margin behind; not resupinate at first.*

[**geoginus**, D. C. P. erect, subinfundib. even, glabrous, edge wavy, reflexed, brownish; g. decur. crowded, white; s. very short, thick, tuberous.

petaloides, Bull. P. 2—5 cm. thin, ascending, spathulate, entire, disc depr. brownish then pale; g. crowded, narrow, whitish; s. short, compressed, downy; sp. 9—10 × 4.

P. porrigens differs in being white and stemless.

[**semiinfundibuliformis**, Karst. Erect, simple, semiinfundib. even, glabrous, rusty tan, edge wavy, reflexed; g. deeply decur. crowded, whitish then yellowish; s. exactly lateral, pallid; sp. 4—6, subgl.

pulmonarius, Fr. P. 4—5 cm. obovate or reniform, rather convex, glabrous, greyish or tan; g. plano-decur. simple, albo-livid; s. round, very short, downy; sp. — .

Differs from *P. serotinus* in very short s., and glabrous p.

var. *juglandis*, Fr. Gregarious; g. greyish brown.

[**pulmonariellus**, Karst. P. convex, reniform, rather strigose, even, yellowish, intermediate stratum thick, gelatinous; g. plano-decur. crowded, white then yellowish; s. very short.

[**almeni**, Fr. P. thin, reniform, glabrous, brownish tawny, narrowed behind into a very short stem; g. determinately decur. divergent, paler than pileus; sp. 7—9 × 3—4.

serotinus, Schrad. P. 3—7 cm. fleshy, compact, viscid, reniform or obovate, yellowish-green, or sooty-olive; g. crowded, yellow then pallid; s. 2 cm. with blackish squamules; sp. — .

mitis, Pers. P. 1—2 cm. tough, reniform, dry, rufescent then whitish; g. crowded, distinct, white; s. 1 cm. compressed, dilated upwards, whitish-squamulose; sp. 4 × 2.

gadinoides, W. G. Sm. White. P. 1—1·5 cm. horizontal, shell-shaped, hygr. floccose, dry; g. crowded, branched; s. minute or absent; sp. 7 × 3.

limpidus, Fr. White. P. 1—2 cm. obovate or reniform, even, glabrous, hygr., narrowed behind to point of attachment; g. white, decur. to base; sp. — .

Differs from *P. mitis* in being shining white and subsessile.

[**limpidoides**, Karst. P. obovoid or reniform, often lobed, soft, even, velvety, dark grey then livid; g. decur. whitish; upper stratum of flesh gelatinous; sp. 6—9 × 3—4.

[**subrufulus**, Karst. P. soft, subgelatinous, orbicular or reniform, even, glabrous, rufous- or pinkish-white; g. crowded, white; s. lateral, strigose, very short.

[**planus**, Fr. Minute, subsessile, violet then flesh-colour.

reniformis, Fr. P. 1—2 cm. horizontal, reniform, grey, disc depr. plane; g. spreading from tubercular stem-like base, divergent, grey; sp. — .

[**Kerneri**, Wettst. P. obovate or reniform, lateral, not immarginate behind, sessile, entire, edge lobed, convex, grey, base blackish, minutely pulverulent; g. grey, simple; sp. glob. 3—5.

tremulus, Fr. P. 1—2 cm. reniform, even, glabrous, disc depr. greyish brown then pale; g. rather distant, grey; s. 1 cm. subterete, ascending, grey; sp. 6—8 × 5—7.

Differs from *P. reniformis* in having a stem.

lauro-cerasi, B. and Br. P. 2—3 cm. thin, horizontal, circular or shell-shaped, sulcate, brownish, attached by narrowed base; g. broad at middle, whitish; sp. 8 × 5.

[**dictyorhizus**, D. C. White. P. very thin, orbicular, sinuate, subsessile, base reticulately-fibrillose; g. simple, unequal; sp. 6 long.

acerosus, Fr. P. 2—3 cm. very thin, reniform, plane, striate, sublobed, grey, silky white when dry; g. narrow, crowded, grey; s. obsolete, base substrigose; sp. glob. 5—6.

[**Severinii**, Com. Shining white. Velvety then almost glabrous, orbicular, edge entire, incurved; g. decur. simple; s. short, incurved.

C. Resupinati. *Pileus at first resupinate; gills radiating from an excentric point; then reflexed, sessile.*

* *Pileus fleshy, uniform in texture.*

porrigens, Pers. White. P. 4—7 cm. thin, tough, resup. then ascending, ear- or fan-shaped, glabrous upwards; g. very narrow; sp. 7—8 × 6.

Resembling *P. petaloides* in habit but white, and no stem-like base.

[**pinsitus**, Fr. P. fleshy, soft, horizontal, silky-villose, wavy, hygr. dingy then white; g. broad, distinct; sp. rough, 10—11 long.

[**nidulans**, Pers. P. subreniform, tomentose, yellow; g. broad, tawny-orange; sp. 3—5 × 1.

[**caesiozonatus**, Rab. P. subsessile, tough, plane then depr. behind, downy, ochre-brown, zoned with bluish grey; g. broad, brownish yellow.

septicus, Fr. P. 1—2 cm. rather fleshy, resup. then reflexed, pubescent, white; s. thin, 2—3 mm. incurved, disappearing; g. distant; sp. 8—10 × 6.

Claudopus variabilis differs in tinted gills and spores.

[**roseolus**, Q. P. convex, conchoid, translucent, striate, rather woolly, rosy-purple; g. rosy, edge darker; s. curved, downy, colour of p.; sp. 8.

** *Pileus fleshy, striate, upper surface gelatinous, or with a viscid pellicle.*

mastrucatus, Fr. P. 4—5 cm. resup. then exp. and horizontal, often lobed, brown, with erect bristly squamules; g. broad, greyish white; sp. — .

[**rivulorum**, Pat. and Doas. P. subgelatinous, pellucid, rusty brown and covered with white down, horizontal or ascending; g. grey then vinous; s. lateral, tubercular, downy, white, rosy when touched; sp. 4—6.

[**tremens**, Q. P. reniform or flabellate, diaphanous, rosy-violet, tremelloid; g. sinuate, pinkish; s. lateral, colour of p.; sp. rough, 6—7.

atrocoeruleus, Fr. P. 2—5 cm. fleshy, downy, dusky blue; g. broad, whitish; sp. glob. 2—3.

P. sometimes brownish, and g. sometimes yellowish.

[**myxotrichus**, Lév. P. reniform, at first viscid, becoming spongy, covered with white down, sessile or with a short stem; g. rather broad, crowded; sp. 10—12 long.

[**furvellus**, Karst. P. dusky or bluish rosy, yellowish-white then brownish when old; sp. 6—9 × 4—5.

Allied to *P. unguicularis* but larger and becoming pale.

Leightoni, B. P. 1—1·5 cm. at first obliquely conical then shell-shaped, umber or lead-colour, scurfy and with short black bristles; g. distant, tan, forked at base; sp. — .

algidus, Fr. P. 2—3 cm. horizontal, reniform, pellicle thin, viscid, reddish-brown or grey; g. crowded, yellowish.

fluxilis, Fr. P. reniform, gelatinoso-viscid above, umber; g. radiating from a lateral point, distant, whitish; sp. 10 long.

[**unguicularis**, Fr. P. resup. covered with a viscid pellicle, grey or blackish; s. incurved then ascending, very short, white; g. distant, white; sp. 4—6 × 1·5.

[**Silvanus**, Sacc. P. thin, sessile, cupulate or dimidiate, resupinate then reflexed, very even, glabrous, greyish black, very minutely white-scurfy; g. broad, dingy white; sp. strongly curved, 8—9 × 3·5—4.

cyphellaeformis, B. P. 5—8 mm. pendulous, cup-shaped, downy or mealy, upper layer gelatinous, grey; g. narrow, distant, pure white; sp. — .

Resembling a *Cyphella* in habit.

[**nivosus**, Q. P. thin, campan. sessile, gelatinous, white and like parchment when dry, granularly rugose, striate, subpellucid, smoky grey, when moist with hyaline warts; g. narrow, white; sp. reniform, 12 × 2.

applicatus, Batsch. P. 4—8 mm. dusky grey, sessile, thin, rather

firm, cupulate, resupinate then reflexed, slightly striate, subpruinose, base downy; gills broad, paler; sp. glob. 4—5.

Differs from *P. tremulus* in absence of distinct s.

[**Mustialensis**, Karst. P. resupinate, subgelatinous within, sessile or with an exceedingly short lateral stem, black, white-tomentose; g. distant, narrow, paler; sp. 6—8 × 4.

Differs from *P. applicatus* in black p. with white down, and dark g.

*** *Pileus membranaceous, not viscid.*

Hobsoni, B. P. 4—7 mm. reniform or semicircular, horizontal, pale grey, downy; g. radiating, pallid; sp. — .

Differs from *P. applicatus* in being plane.

striatulus, Fr. P. 3—4 mm. very thin, pale grey, slightly cup-shaped, striate, glabrous; g. few, distant.

[**canus**, Q. P. thin, dimidiate, reniform, edge mostly lobed, whitish, downy, striate; g. very distant, adnate, white, edge fimbriate; s. rudimentary; sp. 7—9 × 5.

[**arenarius**, Lasch. Hoary-pallid, subsulcate, slightly tomentose; g. distant, thick, broad; s. absent or very short, white-floccose.

Allied to *P. striatulus*.

[**perpusillus**, Fr. White. P. very thin, resup. then reflexed, even, glabrous; g. few, broad.

[**subplicatus**, Karst. P. very thin, resup. orbicular, usually entire, almost plane, striato-plicate, rather silky, white, fixed by a white downy base; g. radiating from an excentric point, broad, whitish; sp. 6—7 × 4—5.

var. *cinereus*, Karst. Entirely pale grey or glaucous.

hypnophilus, B. P. 3—6 mm. very thin, flat, white, rather reniform, nearly smooth; g. radiating, distant, simple; sp. 5 × 3.

Resembling *Claudopus variabilis*, but gills and spores white.

chioneus, Pers. Snow white. P. 2—3 mm. very thin, subresupinate, downy; s. short, downy, evanescent; g. rather broad; sp. 10 long.

P. septicus is larger; s. more distinct; p. thicker.

Differs from *P. hypnophilus* in downy pileus.

[**craterellus**, Dur. and Lév. Cupulate, white, even, downy, edge entire; sp. 6 long.

[**pudens**, Q. P. downy, hygr. coriaceous, cup-shaped, g. radiating, thin, wavy, white tinged lilac; s. central, short.

CANTHARELLUS, Adans.

A. Mesopus. *Pileus entire. Stem central.*

* *Pileus and stem fleshy and solid.*

cibarius. Every part opaque yellowish-buff. P. 3—7 cm. wavy then turbinate, glabrous; g. thick, distant; s. 3—5 cm. narrowed below; sp. 9 × 5—6.

Edible. Smell none when fresh, like apricots when kept for some time. Sometimes all whitish.

var. *rufipes*, Gillet. Flesh pale ochraceous, s. rufous at base.

[**amethysteus,** Q. P. thick, egg-yellow, edge flocculose violet flesh-colour; g. reticulate, yellow; s. obconic, colour of p.; sp. 11 long.

Friesii, Q. P. 2—3 cm. convex then depr. villose, somewhat orange; g. fold-like, branched, yellow; s. 2 cm. slender, downy, base white, narrowed; sp. 6—7 × 2—3.

With gills of *C. cibarius* and habit of *C. aurantiacus.*

aurantiacus, Fr. P. 2—4 cm. thin, depr. soft, subtomentose, dingy orange then pale; g. crowded, dichotomous, orange, rather broad; s. 1—2 cm. expanding upwards, orange, base often dark; sp. 10 × 5.

Poisonous. Perhaps should be placed under *Clitocybe.*

[**hypnorum,** Brond. P. campan. tomentose, yellowish or pale ochre; g. decur. branched, yellow; s. slender, solid, wavy, almost glabrous, yellowish.

[**rufescens,** Fr. P. plano-depr. almost glabrous, gilvous, thin; g. crowded, thin; s. elongated, stuffed, narrowed upwards.

[**olidus,** Q. (=*C. rufescens*, Q. not Fr.) P. fleshy, edge downy, white, convex then cyathiform, flesh white then pinkish; g. decur. pinkish; s. rosy; sp. 3—4 long.

Taste sweetish. Smell of burnt sugar when dry.

[**brachypodes,** Chev. P. thin, infundib. almost glabrous, fuscous; the short stuffed stem and straight gills yellowish.

Brownii, B. and Br. P. rather fleshy, convex, subumb. pale ochre then reddish; g. very narrow, simple or forked, whitish; s. 3—5 cm. slender, tough; sp. 7 × 5.

Gills very narrow, vein-like, hardly decur.

[**subdenticulatus,** Mont. Small, entirely apricot colour. P. rather scurfy, convex and umb. then subdepr. edge spinously toothed; gills fold-like, thickish, decur.; s. solid, flocculose above, base narrowed; sp. globose.

[**parvus**, Otth. P. infundib. fibrously scaly, brownish-grey; g. fold-like, scarcely prominent, yellowish; s. slender, twisted, greyish-yellow, sulcate.

carbonarius, A. and S. P. 3—6 cm. umbil. bay then blackish, striato-squamulose; g. straight, narrow, white; s. 2·5 cm. paler than p. rooting; sp. 14—15 × 7—8.

Fasciculate, 2—3 pilei often appearing to spring from a branched stem.

umbonatus, Fr. P. 1·5—2·5 cm. thin, umb. then depr. flocculose, blackish grey; s. 5—7 cm. equal, paler; g. straight, crowded, white; sp. 10 × 4—5.

Resembling an Agaric in habit.

albidus, Fr. P. 1·5—2·5 cm. infundib. wavy, glabrous, pallid, sometimes indistinctly zoned; g. dichotomous, white; s. 2—3 cm. solid, subequal, glabrous; sp. — .

Tough, sometimes tinged brown or yellow.

[**longipes**, Lamb. P. centre prominent, edge thin, upturned, dry, even, chestnut; g. fold-like, decur. closely crowded, forked, yellowish; s. long, pale grey.

[**Turrissi**, Inz. Straw-colour. P. fleshy-waxy, hygr. convex then digitaliform, often umbil.; g. decur. white, thick, fold-like, simple, rarely branched; s. white, ventricosely fusiform.

** *Pileus submembranaceous; stem tubular, polished.*

tubaeformis, Fr. P. 3—5 cm. infundib. wavy, lobed, flocculose, brownish then pale; g. thick, distant, much branched, smoky yellow, not pruinose; s. 4—7 cm. hollow, glabrous, lacunose, tawny-orange; sp. 9 × 6—7.

var. *lutescens*, Fr. P. convex, umbil. almost regular, nearly glabrous; g. less divided. Connects present sp. with *C. infundibuliformis.*

var. *lutescens*, Fr. P. convex, umbil. almost even and regular; g. less divided.

Differs in more equal stem narrowed upwards.

Connects *C. tubaeformis* with *C. infundibuliformis.*

infundibuliformis, Fr. P. 2—6 cm. thin; infundib. floccoso-rugose, smoky yellow then pale; g. thick, dichotomous, greyish yellow, pruinose; s. fistulose, even, glabrous, yellow; sp. 9—10 × 6.

cinereus, Fr. P. 3—5 cm. thin, infundib. open at base, blackish grey, villosely-squamulose; g. thick, distant, grey; s. 3—5 cm. paler than p.; sp. 7 × 5. (15—8 Sacc.)

Resembling *Craterellus cornucopioides* but having distinct gills.

[**leucophaeus**, Nouel. P. thin, tough, infundib. glabrous, brownish umber; g. distant, simple, mixed with dichotomous ones, white; s. stuffed, thin, even, colour of p.

cupulatus, Fr. P. 1—1·5 cm. plano-infundib, wavy, hygr. pallid fuscous or brownish, flocculose when dry; g. very distant, branched, grey; s. 2—3 cm. stuffed, polished, colour of p.; sp. 7 × 5.

Houghtoni, Phil. P. 2—3 cm. convex, umbil. wavy, whitish; g. slightly decur. narrow, tinged pink; s. 3—5 cm. equal, whitish, stuffed; sp. 7 × 4.

Stevensoni, B. and Br. P. 5—8 mm. orbicular, umbil. pallid, smooth; g. decur. pallid; s. 1—1·5 cm. slender, cylindrical, white then darker, pulverulent; sp. — .

replexus, Fr. P. 1·5—2·5 cm. campan. convex, exp. and inversed, striate, brown then grey; g. adnato-decur. veined, branched, distant, white or glaucous; s. 3—5 cm. fistulose, glabrous, thickened upwards; sp. — .

Habit of a *Mycena* but g. thick and fold-like.

var. *devexus*, Fr. P. cucullate; s. stuffed; g. simple, grey.

[**hygrophanous**, C. P. Laest. P. infundib. punctate, hygr. edge involute, obtuse; g. decur. branched, edge obtuse; s. fistulose, tough, silky-shining.

[**coriaceus**, Preuss. P. depr. rusty brown, edge rather wavy and then incurved; g. vein-like, forked, pale yellow; s. stuffed, thick, pallid.

B. Merisma. *Stems very numerous, united into an elongated column, or branched.*

[**fascicularis**, Strauss. P. tubiform, split on one side, cochleate, downily scaly; flesh and connate stems violet.

[**ramosus**, Schulz. Lurid yellow. P. fleshy, plano-depr. at length deeply umbil. fibrous; s. solid, caespitose, divided into branches each dilating into a pileus at its apex; g. vein-like, anastomosing.

[**polycephalus**, Bres. Branched. P. convex then subinfundib. white, edge lobed; g. decur. white, connected by veins; s. white, downy, apex branched; sp. 6 × 3·5.

[**ochraceus**, Gill. P. unequally infundib. edge upturned, lobed, yellowish ochre; g. decur. almost to base of stem, anastomosing, rosy-white; s. branched, even, spotted ochre.

C. Pleuropus. *Stem exactly lateral.*

[**spathulatus**, Fr. P. fleshy, spathulate, glabrous, brownish; g. dichotomous, crowded, white; s. thin, glabrous.

muscigenus, Fr. P. 1—1·5 cm. spathulate, horizontal, glabrous, zoned, yellowish brown or fuscous, greyish white when old; g. thick, distant, branched, colour of p.; s. short, base downy; sp. 10—12 × 6—8.

Differs from *C. glaucus* in being brown when moist, and from *C. retirugis* in having a distinct lateral stem.

glaucus, Batsch. Grey. P. 1 cm. ligulate, ascending, silky, not zoned; g. fold-like, tumid, distant, forked; s. short, pruinose; sp. 5 × 3.

D. RESUPINATE. *Pileus cup-shaped at first, fixed by the vertex, then subreflexed.*

* *Growing on mosses.*

[**bryophilus**, Fr. P. thin, cupulate, white, vertex forming a stem-like point of attachment, villose; g. broad, dichot., radiating from centre.

Gills acute, much resembling an Agaric.

[**juranus**, Q. and Pat. (= *Dictyolus.*) P. wavy, 1—2 mm. diam. snow-white, becoming split, thin, downy, springing from cobweb-like mycelium; g. fold-like, branched, broad, thin, white then cream; sp. 6—7 long.

Close to *C. bryophilus.*

retirugus, Fr. P. 1—2 cm. thin, exp. wavy and lobed, greyish-white, adfixed by fibrils behind; g. radiating from centre, very thin, reticulated; sp. 10 × 8.

lobatus, Fr. P. 1—2 cm. horizontal, lobed, brown then pale; g. fold-like, distinct, branched, divergent; sp. — .

[**muscorum**, Fr. P. thin, gelatinous, ear-shaped, dingy rufous, glabrous; g. crisped, folds divided near the margin of p.; sp. 3—4 × 2—3.

** *Growing on wood.*

[**applicatus**, Lév. P. lobed, margin byssoid, tomentose, white; g. vein-like, radiating from the centre, forked, white.

[**odorus**, Wetts. Reddish-yellow, strongly-scented. P. entire, solid, fleshy, convex then turbinate or subconcave, often umbil. or subwavy, glabrous, edge slightly incurved; g. thick, forked, decur.; s. solid, glabrous; sp. subgl. 3—4.

[**crucibulum**, Fr. P. cup-shaped, downy, white; g. dichotomous, broad, dingy yellow, edge obtuse.

[**Coemansii**, Rab. P. campan. tomentose, whitish, edge incurved; g. fold-like, somewhat forked, cinnamon.

ARRHENIA, Fr.

* *Stem lateral.*

[**auriscalpium**, Fr. Brown. P. thin, convex, glabrous; g. vein-like, few, distant, simple; s. exactly lateral, straight, downy.

Resembling *Hyduum auriscalpium* in form, but smaller.

*** Pileus sessile.*

[**tenella**, Fr. P. ·5—1 cm. effuso-reflexed, thin, soft, blackish, becoming lobed; g. vein-like, simple, with shorter ones, dark.

[**cupularis**, Fr. P. 2—3 mm. resupinate, soft, orbicular, outside even, downy, grey; g. vein-like, simple, radiating from centre.

Resembles young condition of *Pleurotus applicatus*.

[**fimicola**, Bagl. P. resupinate, thin, concavo-patellate, flesh-colour, with a byssoid border; veins very slight, distant.

NYCTALIS, Fr.

A. Speleae. *Gills crowded, more or less coalescent. Very doubtful, probably morbid forms of Agarics.*

[**verpoides**, Fr. P. campan. obtuse, glabrous, brown; g. very thick, coalescent; s. equal, rigid, striate, glabrous.

[**cryptarum**, Secr. Foetid. P. conico-deformed, brown; g. adnexed, undulate, subcoalescent, flocculose, fleshy-grey; s. unequal, flexuose, hoary-fibrillose.

[**canaliculata**, Pers. P. pallid white, oblique, subumbil. almost glabrous; g. crowded, distinct, almost simple, edge slightly canaliculate; s. solid, subundulate, naked.

caliginosa, W. G. Sm. P. subumb. edge incurved, greyish, white and silky when dry, 1 cm.; g. subdecur. thick, narrow, branched, grey; s. 3—5 cm. often inflated, whitish, silky, hollow, rusty inside; sp. 5 × 3.

B. Parasitae. *Gills distinct from each other, distant. Growing on decaying fungi.*

[**nauseosa**, Weinm. Smell nauseous. P. fleshy, globose then hemisph. ochraceous, pulverulent, edge involute; g. distant, forked, pallid; s. fistulose, thick, obliquely sulcate and twisted, pallid.

Larger than *N. asterophora*.

asterophora, Fr. P. 1—1·5 cm. conical then hemispher. fawn, mealy with large stellate conidia; g. adnate, distant, rather forked, dingy; s. 1—1·5 cm. whitish pruinose then brownish, twisted; sp. 3 × 2.

parasitica, Fr. P. 1—2 cm. conical then exp. irreg. with grey meal formed of large, elliptical, smooth conidia; g. adnate, thick, distant, then forked and anastomosing, dusky; s. 2—6 cm. whitish, floccosely downy; sp. 5 × 3·5.

[**microphylla**, Corda. P. hemispher. soft, glabrous, naked, white; g. adnate, entire, dingy white; s. glabrous, bluish.

[**vopiscus**, Fr. P. cup-shaped, reflexed then recurved, pallid; g. thick, radiating from centre; s. short, excentric, curved, flocculose, pallid.

LENTINUS, Fr.

A. Mesopodes. *Pileus subentire; stem distinct.*

* *Pileus squamulose.*

tigrinus, Fr. P. 3—7 cm. orbicular, umbil. whitish, with blackish innate scales; g. very narrow, tinged yellow; s. 3—5 cm. slender, squamulose; sp. 7 × 3·5.

Dunalii, Fr. P. umbil. deformed, pallid with spot-like adpressed scales which disappear; g. crowded, pallid; s. 1·5—2 cm. rather silky; sp. — .

lepideus, Fr. P. 5—7 cm. tough, depr. irreg. pale ochre breaking up into darker spot-like scales; g. sinuato-decur. broad, whitish; s. 2—3 cm. stout, rooting, tomentosely squamulose; sp. 7 × 3. (10—14 × 6 Sacc.)

var. *contiguus*, Fr. P. thinner, plano-depr. and with the slender stem, even.

[**gallicus**, Q. P. ivory colour with tawny lilac flecks, then areolate; s. pubescent, white, apex sulcate, then torn into scales, flesh coloured; g. white, decur. in lines; sp. 10—12 long.

[**sitaneus**, Fr. P. elastic, convex, unequal, grey, fibrillosely scaly; g. deeply decur. base anastomosing; s. firm, curved, fibrillose.

[**degener**, Kalchb. P. hemispher. exp. ochre with tawny scales; g. very narrow, anastomosing; s. stout, scaly, base blackish.

[**contortus**, Fr. P. orbicular, umbil. tawny rufescent with darker scales; g. crowded, subdecur.; s. twisted, subsulcate, squamulose.

[**Queletii**, Schulz. P. at first regular, edge incurved, umber, then depr. edge wavy and split, and becoming pale or almost white, scaly; g. pale ochre, edge torn; s. branched, excentric, colour of p. squamulose; sp. 7—8 × 3.

* * *Pileus villose or pulverulent.*

leontopodius, Schulz. P. 7—16 cm. tough, irreg. slightly tomentose, disc depr. tan, edge bent down, lobed; g. decur. connected by veins, sides rugose; s. 6—9 cm. stout, woody, pulverulent, tan, base blackish; sp. 12—15 long.

[**domesticus**, Karst. Very large. P. tough, edge thin, subinfundib. oblique, irregular, cuticle broken up into darker adpressed revolute scales, rusty; g. deeply decur. toothed, narrowed at both ends, very broad, pale tawny rusty then reddish; s. excentric, solid, rusty, squamulose; sp. 3—5 × 2—3.

[**hornotinus**, Fr. P. deformed, pulverulent, grey; g. crowded, white; s. caespitosely branched, unequal, rather woody.

[**pulverulentus**, Scop. P. tough, convex, yellow, white-pulverulent; g. toothed, white; s. stout, equal, rigid, with white powder.

[**lusitanicus**, Kalchb. P. oblique, not compact, depr. sublobed, tomentose, becoming naked, tan; g. decur. crowded, anastomosing, white; s. short, excentric or lateral, solid, even, glabrous, colour of p.; sp. — .

resinaceus, Fr. P. 2—5 cm. tough, excentric, cinnamon-ochre, villose, matted with resin; g. crowded, shining white; s. 2 cm. partly hollow, downy; sp. — .

adhaerens, A. and S. P. 2—3 cm. tough, irreg. lacunose, rather pulverulent; g. decur. in lines, very thin, torn, white; s. colour of p. glutinous, rooting; sp. — .

P. and s. appear as if lacquered from the dried gluten.

*** *Pileus glabrous.*

[**suffrutescens**, Fr. P. tough, convex then infundib. glabrous, somewhat rusty; g. crenato-torn, yellowish; s. elongated, somewhat branched, woody.

[**auricolor**, Brig. Subcaespitose, golden yellow, oblique; g. decur.; s. fibroso-woody, subexcentric, distorted.

[**anisatus**. P. tough, subflabelliform or obliquely subinfundib. somewhat lobed, whitish; g. decur. tinged yellow, edge entire; s. lateral or excentric, short, pallid; sp. 6—7 × 3·5.

[**jugis**, Fr. White. P. irreg. lobed, glabrous, rather viscid; g. dentate; s. short, irreg. scaly.

[**umbellatus**, Fr. P. tough, umbil. pervious, glabrous, yellowish grey; g. very narrow, white; s. branched, sulcate.

cochleatus, Fr. P. 2—5 cm. tough, flaccid, irreg. depr. or infundib. reddish cinnamon; g. crowded, serrate, pinkish white; s. solid, length variable, several frequently more or less grown together, sulcate, glabrous; sp. — .

Edible. Smell sometimes spicy, at others almost none.

[**friabilis**, Fr. Caespitose, fleshy-fibrous, fragile, becoming pale. p. thin, subdimidiate, umbilicate, pervious into partly hollow contorted s.; g. crowded, narrow.

[**omphalodes**, Fr. Solitary. P. thin, tough, at first deeply umbil. livid straw-colour then pale, limb convex then exp. and wavy; g. decur. arcuate, pallid; s. central, thin, tough, glabrous, scrobiculate.

[**bisus**, Q. P. tough, convex, exp. deeply umbil. irreg. excentric, edge lobed, livid grey, umbil. fuscous; g. sinuato-decur. greyish white, edge toothed; s. brown, longitudinally sulcate, twisted, excentric; sp. glob. 4—5.

[**badius**, Bres. P. thin, tough, regular, excentric, or subdimidiate, with longitudinal cristate veins, bay then pale; g. very distant, edge deeply and irreg. crenate; s. short, greyish-lilac; sp. 5—6 × 4—4·5.

[**Bresadolae**, Schulz. (= *L. divisus*, Schulz.) P. soon irreg. infundib. wavy and sinuate, glabrous, even, pale smoky fuscous; g.

distant, spuriously decur.; s. very tough, obconic, subrooting, tinged reddish; sp. 8—10 long.

[**hispidosus**, Fr. Caespitose. P. thin, subdimidiate, lobed, infundib. hispidly scaly, rusty, edge torn, proliferous; g. serrulate; s. many, growing out of each other.

B. Pleuroti. *Dimidiate, sessile or with a sublateral stem.*

scoticus, B. and Br. P. 2—5 cm. thin, umbil. or infundib. smooth, pallid or brownish, hygr.; g. decur. when stem is present, pallid, strongly toothed; s. excentric or lateral, variable, darker than p. springing from a branched brown mycelium; sp. 5—6 × 4.

fimbriatus, Currey. P. 1—2 cm. thin, depr. behind, pale fawn with darker scales, margin hairy; g. narrow, tinged brown; s. ·5 cm. thin, whitish; sp. — .

[**ursinus**, Fr. P. sessile, imbricated, ear-shaped, ascending, even, rufous brown, brownish tomentose behind with age, edge entire, glabrous; g. broad, torn, whitish.

[**castoreus**, Fr. P. subsessile, imbricate, pilei tongue-shaped, glabrous, subrugose, rufous then tan, edge involute, entire; g. closely crowded, rufescent.

vulpinus, Fr. P. 3—5 cm. tough, shell-shaped, imbricate, connate behind, longitudinally corrugated with ribs, floccoso-scrupose, tan, edge incurved, entire; g. broad, torn, white; sp. glob. 2.

[**auricula**, Fr. White, caespitosely imbricated, p. dimidiate, sessile, ascending, glabrous, at length revolute; g. linear, densely crenulate; sp. glob. 3.

Habit of *Pleur. porrigens.*

[**suavissimis**, Fr. Smell very pleasant. Subsessile, white, thin, peltate, even, glabrous; g. dentate, decurrent from base, anastomosing.

flabelliformis, Fr. P. 3—5 cm. subsessile, thin, tough, reniform, glabrous, fawn-colour, edge crenato-fimbriate; g. broad, torn, pallid.

[**tomentellus**, Karst. Subsessile, imbricately tufted, coriaceous, p. horizontal, tongue-shaped or obovoid, tomentose, whitish then tinged rufescent, yellowish when dry, edge wavy, incurved; g. much crowded, narrow, whitish, tinged red when dry, edge toothed.

[**hygrophanus**, Harz. P. conchate, woolly, digitately lobed, white then yellowish ochre, glabrous, hygr. fragile, fixed by a narrow lateral point; g. densely and acutely dentato-serrate; sp. glob. 3—3·5.

PANUS, Fr.

* *Pileus irregular; stem excentric.*

[**farneus**, Fr. P. compact, hard, irreg. circinate, nearly plane, unequal, dingy yellow; g. adnate, crowded; s. short, glabrous, sulcate, pinkish.

[**cyathiformis**, Schaeff. P. obliquely cup-shaped, wavy, squamulose, brick-red then pale; g. crowded, pallid then yellowish; s. very short, even, firm, excentric.

[**fulvidus**, Bres. P. tough, thin, convex or subcampan. exp. gibbous or umb. tawny then pale, with brown squamules, edge fibrilloso-sulcate; g. almost free, white; s. solid, white, narrowed to a rooting base, apex sulcate; sp. 12—18 × 6—9.

[**urnula**, Fr. Subsessile, imbricated. P. subexcentric, urniform, even, glabrous, fuscous, pale when dry, edge lobed; g. attenuato-decur. grey.

[**vaporarius**, Bagl. Caespitose imbricate. P. subcoriaceous, base narrowed, erect, spathulate then utriculiform, undulately lobed, pruinose, dingy white then livid violet; g. decur. very narrow, tinged rose.

conchatus, Fr. P. tough, thin, unequal, excentric, dimidiate, cinnamon then pale, becoming squamulose, 3—9 cm.; g. decur. in lines, somewhat branched, pinkish then ochre; s. 1—2 cm. unequal, base pubescent; sp. — .

Rigid and the gills crisped or wavy when dry.

torulosus, Fr. P. 5—9 cm. plano-infundib. even, flesh colour then ochre; g. decur. rather distant, reddish then tan; s. 1—2 cm. stout, oblique, greyish-tomentose; sp. — .

rudis, Fr. Caespitose. P. 4—6 cm. tough, depressed, sinuate, reddish-tan, bristling with tufts of hairs; g. decur. narrow, crowded, pale buff; s. very short or obsolete, hirsute; sp. — .

[**Lamyanus**, Mont. P. orbicular, edge incurved, and, with the central stem, tawny umber and fasciculately hirsute; g. narrow, thick, forked, decur.

[**granulatus**, Berk. and Mont. Entirely rusty-saffron; p. semi-orbicular; s. short, excentric, granular; g. sparingly connected by veins.

[**Schurii**, Schulz. P. coriaceous, flattened, centre concave, wavy, obconic, even, glabrous, whitish; g. decur. narrow, pallid; s. central, fibrillose, short or almost absent.

[**inverse-conicus**, Lerchenf. and Schulz. P. flattened, broadly umbil. whitish, edge incurved, inversely conical; g. decur. both ends acute; s. central, cylindrical, white then brown.

** *Stem definitely lateral.*

[**foetens**, Fr. Foetid. P. spongy, spathulate, convex then depr. yellowish white, rather silky, base continued into a long stem channelled above; g. decur. firm, crowded, reddish-yellow.

[**cochlearis**, Pers. Caespitose, tawny. P. oval, convex, spathulate, hirsute, edge involute, entire; s. lateral; g. decur.

stipticus, Fr. Taste hot and pungent. P. thin, flexible, reniform, cinnamon then pale, broken up into scurfy squamules; g. determinate, thin, reticulately joined, cinnamon; s. lateral, very short, dilated into the p.; sp. 3 × 2.

[**flabellulum**, A. and S. P. dimidiate, flabellate, subsquamulose, produced into a short stem-like base, white then fawn; g. decur. crowded; sp. 2·5—3·5.

[**tenuis**, Wetts. P. thin, reniform or suborbicular, convex then exp. ochre or subfuscous, glabrous, somewhat shining; g. numerous, very thin, colour of p.; s. lateral, oblique; sp. 2·5 × 1·5.

farinaceus, Schum. P. 1·5—2 cm. flexuous, dusky cinnamon, broken up into greyish-white scurf which falls away; g. free, distinct, pale; s. lateral, short; sp. — .

var. *albido-tomentosus*, Cke. and Mass. P. with short, whitish velvety down, semicircular; g. honey colour; sp. subgl. 5.

[**Schultzii**, Kalchb. P. spathulato-flabelliform, rigid, coriaceous, concentrically sulcate, radiately rugose, dingy brick-red; g. crowded, paler than p., edge brownish; s. expanding into pileus, apex virgate; sp. 3 × 1.

Allied to *P. stypticus*.

*** *Pileus resupinate, sessile or produced to a point of attachment behind.*

[**violaceofulvus**, Q. P. resupinate, thin, hygr. cup-shaped then exp. and reflexed, pulverulent, violet-umber; g. pale violet.

[**ringens**, Fr. P. resupinate, thin, flaccid, orbicular then partly closed over and gaping, reddish-brown, edge striate; g. simple, flesh-colour.

patellaris, Fr. P. 1—2 cm. resupinate, plano-depr. orbicular, pallid scurfy or downy, edge involute; g. ochraceous; sp. 4 × 3.

Stevensonii, B. and Br. P. spathulate, olive yellow; s. dilated above convex, golden, slightly hispid; g. narrow, entire; flesh greenish-yellow.

[**pudens**, Q. P. cup-shaped then pendulous, with white pubescence, edge becoming rosy; g. tinted lilac.

[**Delastri**, Mont. Resupinate, coriaceous, urceolato-turbinate, vertex protruding as a tomentose stem, edge incurved; g. brownish purple, edge white-pruinose.

[**lithophilus**, Fr. P. resupinate, flattened, sessile, adnate, downy, edge free; g. radiating from a point, amethyst.

XEROTUS, Fr.

degener, Fr. P. 1·5—2·5 cm. thin, plano-infundib. edge entire, greyish bay, slightly zoned when moist; g. distant, decur. simple or dichot. greyish; s. 1—2 cm. brown with white down.

A very uncertain sp. probably some *Clitocybe*. Quelet says it is an old condition of *Cantharellus carbonarius*.

[**romanus**, Fr. P. glabrous, thin, exp. umbil. even, brownish, edge lobed; g. thick, crisped, rufescent; s. rigid, fistulose, black.

LENZITES, Fr.

* *Growing on Angiosperms.*

[**albida**, Fr. P. corky, soft, plane, zoneless, whitish, tomentose; g. thin, dichot. anastomosing, entire, whitish. Effuso-reflexed.

betulina, Fr. P. 6—10 cm. firm, long, 2—5 cm. broad, broadly attached, flesh 4—6 mm. thick, pallid or tinged brown, rather zoned, tomentose; g. thin, forked, whitish; sp. 4 × 2.

flaccida, Fr. P. 3—6 cm. flaccid, more or less flabelliform, thin, strigose, zoned, pallid; g. broad, crowded, unequally branched, whitish; sp. 7 × 5.

[**variegata**, Fr. P. rigid, plane, velvety, zoned with different colour, edge whitish; g. broad, thickish, anastomosing, white, edge torn.

Habit and colour of *Poly. versicolor*.

[**trabea**, Fr. P. coriaceous, flattened, rugulose, almost glabrous, brownish; g. straight, simple and forked, freely anastomosing, entire, reddish.

Habit of *Dedaelea quercina* but thinner.

[**cinnamomea**, Fr. P. coriaceous, flattened, firm, downy, concentrically sulcate, inside and out cinnamon; g. rather distant, straight, unequal, almost simple, narrow, entire, colour of p.

var. *crocata*, Sacc. P. strigosely velvety, sulcate, brown; g. yellow, edge unequal, paler, trama bright saffron.

[**tricolor**, Fr. P. corky, plane, base gibbous, scabrid, zoned and radiately rugulose, yellow then dingy; g. thin, distant, forked, anastomosing behind, citrin then umber.

* * *Growing on Gymnosperms.*

sepiaria, Fr. P. 3—9 cm. long, hard, zoned, bay, strigose, rough; g. branched, anastomosing, yellowish; sp. 5 × 4.

abietina, Fr. P. 3—12 cm. effuso-reflexed, umber-tomentose then nearly glabrous, hoary; g. decur. simple, unequal, with white meal; sp. 7—8 × 4.

[**pinastri**, Kalchb. P. coriaceous, rigid, convex, tomentose, obsoletely zoned, disc hoary, edge with broad rusty band; g. densely anastomosing, pallid.

[**Queletii**, Schulz. P. generally reniform, corky, pale ochre becoming deep yellow when wet, closely zoned; g. thick, anastomosing and forming pores behind, whitish, edge tan; sp. 13—18 × 6—8.

var. *populina*, Schulz. P. narrowed into stem-like base, tomentose, greyish or ochre; g. sometimes greyish, edge subserrulate.

var. *crassior*, Schulz. P. blackish grey and scabrid behind, rest hispid-tomentose; sp. 4 × 1.

[**Bresadolae**, Schulz. (= *L. tricolor*, Kalch. not of Fr.). P. semiorbicular, broadly adnate, gibbous, subtomentose, multizoned, interruptedly radially wrinkled, umber then tawny; edge of g. colour of p., sides paler; flesh fuscous.

Reichardtii, Schulz. Subimbricated. P. semiorbicular, adnate, base brownish, ochre or whitish towards edge, grey when old, imperfectly zoned; g. tan, at first white mealy, some forked.

[**heteromorpha**, Fr. Coriaceous, thin, effuso-reflexed, gibbous, fibroso-rugose, pallid, margin incised into broad plates, crowded, somewhat branched, white, excurrent.

var. *resupinata*, Fr. Resupinate, porose.

[**labyrinthica**, Q. and Schulz. P. irregularly rounded, edge sinuate, produced behind into a short stem-like base, greyish white, base darker, not zoned but with scattered warts; lamellate in front underneath, behind white, glabrous and sterile; g. tan, anastomosing and forming labyrinthiform pores; sp. 6—8 × 3—4.

[**faventina**, Caldesi. P. dimidiate, sessile, corky, tuberculato-scrobiculate, whitish then grey; g. radiating, irreg. porose behind, tinged yellow, edge acute, darker.

[**mollis**, Heufler. P. broadly exp. incurved, soft, edge brown with darker zones, centre grey; g. strongly anastomosing, greyish or wood-colour.

[**septentrionalis**, Karst. P. sessile, dimidiate, gibbous behind, floccose, radiately rugulose, pallid brownish with darker zones, almost glabrous, edge thin, blackish; g. simple, crowded, very broad, fuscous.

[**sorbina**, Karst. P. corky, effuso-reflexed, imbricate, almost glabrous, usually even, not zoned, thin, pallid, edge obtuse; g. anastomosing, dingy white, thickish.

TROGIA, Fr.

crispa, Fr. P. 1—2 cm. shallowly cup-shaped, reflexed, lobed, downy, yellowish brown, edge whitish; g. fold-like, dichotomous, crisped, greyish-white; sp. subgl. 5—6.

In the only European sp. the edge of gills not channelled.

SCHIZOPHYLLUM, Fr.

commune, Fr. P. thin, more or less fan-shaped or reniform, often much lobed, narrowed behind to a point of attachment, whitish, downy then strigose; g. radiating, narrow, brownish, edge split; sp. subgl. 5—6.

var. *multifidum*, Mass. (=*S. multifidum*, Fr.) P. deeply incised, segments narrow.

CHLOROSPORAE.

Chlorospora. Gills free; veil appendiculate; volva and ring absent.

[**Chlorophyllum**. Gills free; veil forming a persistent ring on the stem, volva absent. Not European.]

CHLOROSPORA.

Eyrei, Mass. (=*Schulzeria Eyrei*, Mass.) P. 2—4 cm. campan. then exp. and umb. even, glabrous, pale tan, edge appendiculate; g. free, clear pale green then deep bluish-green; s. 4—5 cm. equal, slightly wavy, pallid; sp. green, 4—5 × 3.

The only known European representative of the Chlorosporae.

RHODOSPORAE.

A. *Gills free.*

Volvaria. Volva present; ring absent.

Annularia. Volva absent; ring present, often falling away.

Pluteus. Volva and ring both absent.

B. *Gills adnexed, rarely adnate.*

Entoloma. Gills sinuate behind; edge of pileus incurved when young; stem fibrous or fleshy.

Nolanea. Stem cartilaginous; pileus campanulate, edge straight and adpressed to stem when young.

Leptonia. Stem cartilaginous; pileus convexo-plane, edge incurved at first; gills soon separating from stem.

C. *Gills decurrent.*

Clitopilus. Stem central, fibrous; edge of p. incurved at first.

Eccilia. Stem central, cartilaginous; pileus umbilicate.

Claudopus. Stem excentric, minute, or absent. Species minute, membranaceous.

VOLVARIA, Fr.

* *Pileus dry, silky, or fibrillose.*

bombycina, Schaeff. P. 9—18 cm. campan. then exp. and subumb. white, silky-fibrillose; g. flesh-colour; s. 7—14 cm. solid, attenuated, glabrous, white, volva ample; sp. 6—7 × 4.

[**regia**, Fr. P. convex then exp. white or with a reddish tinge, glabrous, dry; g. crowded; s. white or tinged yellow, solid, glabrous; ring persistent; volva white, large.

volvacea, Bull. P. 5—7 cm. campan. then exp. obtuse, grey or greyish-yellow, virgate with adpressed black fibrils; g. flesh-colour; s. 5—9 cm. solid, subequal, white, volva large; sp. 6—8 × 3·5—4.

[**arenaria**, Otth. P. campan. exp. umb. silky fibrillose, whitish brown, disc darker, dry; g. crowded, near to stem, subventricose; s. rather shining, whitish, base thickened; volva mostly adherent, laciniate, brownish.

Loveiana, Berk. P. 5—7 cm. convex, obtuse, white, silky; g. pinkish-salmon; s. bulbous, narrowed upwards, solid, white, volva irreg. lobed; sp. 4—5 × 3.

Parasitic on *Clitocybe nebularis*.

Taylori, Berk. P. 3—5 cm. conical then obtuse, livid, edge paler, striately cracked; g. narrowest behind; s. 4—5 cm. equal, solid, whitish; volva lobed, brownish; sp. 5 × 3·5—4.

Differs from *V. volvacea* by gills being narrowed behind, and small brown volva.

[**grisea**, Q. P. flexuous, silky-villose; g. crisped, hoary; s. short, tomentose; volva trilobed; sp. 8—9.

[**murinella**, Q. P. campan. villose, grey; g. remote, ventricose; s. slightly striate, white; volva 3—4 lobed, white; sp. 6—8 × 3—4.

[**hypopithys**, Fr. Small. Shining white. P. conical then campan. dry, silky; g. white then flesh-colour; s. solid, equal, pubescent, adpressedly silky; volva bilobed; sp. 6—8 × 4.

* * *Pileus more or less viscid and (one species excepted) glabrous.*

[**rhodomela**, Lasch. P. campan. then exp. somewhat sooty, squamulose, viscid; g. reddish; s. solid, attenuated, delicately floccoso-downy then almost glabrous; volva small, floccose.

speciosa, Fr. P. 7—12 cm. P. soft, campan. then exp. obtuse, glabrous, viscid edge even, white or disc greyish; g. flesh-colour; s. 10—18 cm. subbulbous, solid, attenuated, villose, white; volva lax, villose; sp. 14—16 × 8.

[**theiodes**, Saut. P. campan. then exp. citrin, mealy, with deciduous squamules, broadly umb. edge sulcate; g. free, broad; s. hollow, fuscous.

gloiocephala, D. C. P. 7—11 cm. campan. then exp. umb. glutinous, sooty, edge striate; g. reddish; s. 8—14 cm. solid, glabrous, whitish, tinged brown below; volva adnate except a small free margin; sp. 10—12 × 6—7.

viperina, Fr. P. persistently conical, acute, grey; g. tinged yellow then flesh-colour; s. solid, equal, closely sheathed by the thin volva.

media, Schum. P. 3—5 cm. exp. obtuse, viscid, silky when dry, white or disc tinged brown; g. rosy; s. 4—7 cm. solid, equal, glabrous, white; volva lobed; sp. 5 × 3·5.

Intermediate in size between *V. speciosa* and *V. parvula*; differs from former in glabrous s. and volva, and from latter in solid stem.

parvula, Fr. White. P. 1·5—2·5 cm. campan. then plane, umb. disc often tinged brown; g. flesh-colour; s. 2—3 cm. equal, subfistulose, silky; volva lax, usually 3—4 lobed; sp. 5 × 3·5.

var. *biloba*, Cke. S. stuffed, pubescent; volva bilobed.

temperata, Berk. P. 1—1·5 cm. convex then exp. and umb., disc tinged tawny, rest whitish, striate; g. pale salmon; s. 1·5—2·5 cm. whitish, volva rather large, lobed; sp. 4 × 2·5.

ANNULARIA, Schulz.

laevis, Krombh. P. 4—6 cm. convex subumb. whitish; g. free, narrowed behind, becoming pale flesh-colour; s. 4—6 cm. base swollen, white, ring large, free; sp. subgl. 7—8.

[**Fenzlii**, Schulz. P. ovate then exp. sulphur then egg-yellow; g. ventricose, rosy; s. soon hollow, subattenuated, sulphur below the median ring.

[**alutacea**, Pers. P. campan. obtusely umb. glabrous, tan; g. crowded; s. glabrous, ring lax.

[**xanthogramma**, Ces. P. convex, umb. squamulosely punctate from the umbo, milk-white with densely crowded yellow striae; g. very broad, crowded; s. stuffed, thin, obsoletely annulate below middle.

transilvanica, Schulz. P. campan. striate to vertex, whitish, apex darker, edge lobed; g. crowded, unequal; s. hollow, paler than p., flocculose, ring complete, membranous.

PLUTEUS, Fr.

* *Cuticle of pileus fibrillose or floccose.*

cervinus, Schaeff. P. 4—9 cm. campan. exp. even, glabrous, then broken up into fibrillose squamules which fall away, smoky with a yellowish or fawn-coloured tinge; g. white then flesh-colour; s.

5—9 cm. solid, whitish with black fibrils; sp. 7—8 × 5—6; cystidia ventricose.

var. *rigens*, Pers. P. grey, blackish, virgate or squamulose; s. glabrous, somewhat shining.

var. *patricius*, Schulz. P. whitish then grey with umber or tan scales, then almost glabrous, silky shining, and radiately cracked; s. even, white.

var. *eximius*, Saund. and Sm. Large and showy. P. even, with a separable viscid pellicle, reddish-umber, vermilion near edge when young; s. fibrillose, at length blackish.

var. *petasatus*, Fr. P. umb. glabrous, greyish white, with a separable pellicle, at length striate to middle; s. fibrillosely striate, at length tawny.

var. *Bullii*, Berk. P. convex, smooth, even, pallid, disc darker; s. pale brown.

[**sororiata**, Karst. P. campan. exp. floccosely scaly, yellow; g. flesh-colour; s. pallid then yellowish; sp. 7—8 × 6.

[**montellicus**, Sacc. P. flesh spongy, dry, exp. yellowish, almost glabrous; g. olive-grey; s. fibrous, rufescent, incurved; sp. 10 × 8.

umbrosus, Pers. P. 3—5 cm. campan. then exp. lacunose-rugose, at first downy, umber, edge ciliato-fimbriate; g. edge smoky-fimbriate; s. 4—7 cm. solid, squamulosely downy, pale; sp. 6—7 × 5; cystidia ventricose.

Differs from *P. cervinus* in downy p. and dark-edged gills.

ephebius, Fr. P. 3—5 cm. exp. obtuse, covered with bluish down, edge naked; g. yellowish flesh-colour; s. 4—7 cm. stuffed, glabrous, slightly striate, whitish or tinged grey; sp. 7 × 4.

Differs from *P. cervinus* in minutely downy p. which is sometimes brownish-violet.

var. *drepanophyllus*, Schulz. P. umber; s. at length hollow.

[**granulatus**, Bres. (=*plautus*, Q., not of Fr.) P. campan. then exp. hygr. edge striate, rufescent, densely covered with minute granules of same colour; g. free, edge fimbriate; s. hyaline-white, often compressed, grooved, rather scurfy, somewhat rooting; sp. 6—8.

violarius, Mass. P. 1·5—2·5 cm. hemisph. then nearly plane, minutely velvety, watery, dark purple, flesh grey; g. flesh-colour, edge serrulate; s. 2—3 cm. hollow, whitish upwards, base pale brown with black fibrils; sp. subgl. 5—6.

salicinus, Pers. P. 2—3 cm. exp. subumb. bluish-grey, disc darker and floccosely rugose; g. rosy; s. 2—3 cm. stuffed, fibrillose, bluish-white; sp. — .

var. *beryllus*, Pers. P. greenish.

var. *floccosus*, Karst. P. floccosely scaly.

hispidulus, Fr. P. 1—1·5 cm. convexo-plane, pilose or silky, grey, edge at length slightly striate; g. flesh-colour; s. 3—4 cm. fistulose, even, glabrous, silvery-white; sp. — .

[**curtus**, Karst. P. convexo-exp. obtuse, longitudinally fibrillose

or cracked, with short, stout, erect, muricately squarrose scales at disc, pallid then fuscescent; g. adnexed, broad, ventricose; s. rigid, short, equal, wavy, floccosely squamulose, fuscescent, apex naked; sp. rough, 5 × 3—4.

Resembling *Inocybe lacera* but smaller and shorter.

pellitus, Fr. White. P. 2—4 cm. convexo-plane, even, dry, silky; g. flesh-colour; s. 3—4 cm. stuffed, glabrous, even, shining; sp. — .

var. *punctillifer*, Q. P. exp. whitish, centre tinged fuscous, and with minute umber squamules; s. whitish, squamulose below; sp. 3—4.

var. *gracilis*, Bres. P. white, becoming very faintly tinged umber at disc; s. cylindrical, glabrous; sp. 5—6 long.

[**Roberti**, Fr. P. convex then plane, obtuse, slightly hairy, not sulcate, white tinged fuscous; g. very broad, shining white; s. apex hollow, solid below and slightly thickened.

Fries considers this sp. as near to *P. semibulbosus* notwithstanding the white gills.

** *Pileus atomately pruinose, subpulverulent.*

[**plautus**, Weinm. P. campan. exp. even, glabrous, tan when moist, smoky hoary; g. flesh-colour; s. fistulose, soft like velvet, blackish brown.

var. *terrestris*, Bres. P. exp. edge wavy, dry, pruinosely velvety, sooty black, rugulose; g. edge subfimbriate; s. velvety, blackish; sp. 6 × 5.

[**cinereus**, Q. Scurfy-flocculose, grey. P. with raised veins forming pits; s. springing from a white byssoid mycelium; sp. glob. 6—8.

nanus, Pers. P. 3—5 cm. exp. obtuse, rugulose, smoky, sprinkled with floccose bloom; g. flesh-colour; 3—4 cm. solid, rigid, striate, white; sp. subgl. echin. 5—6.

var. *lutescens*, Fr. Stem and g. or first only, yellowish.

var. *major*, Cke. Larger. P. even, greyish.

All the forms differ from *P. cervinus* and its vars. in having subglobose spores.

[**exiguus**, Pat. P. exp. reddish brown, bristling with minute squamules; g. distant from stem, ventricose; s. white, pruinose, thickened at base, solid; sp. 6—7 × 3.

Near *P. nanus*, but smaller and p. squamulose.

melanodon, Secr. P. convexo-plane, umb. pulverulent, edge slightly striate, dull yellow; g. pale flesh-colour, edge with minute black teeth; s. fistulose, slender, firm, glabrous, shining.

spilopus, B. and Br. (=*spodopileus*, Sacc.) P. 2—3 cm. exp. subumb. radiately rugulose, brownish or dark fawn; g. pale salmon;

s. 3—4 cm. equal, whitish or tinged fawn, with scattered black points, solid ; sp. subgl. 7—8.

semibulbosus, Lasch. White. P. 1—2 cm. hemispher. obtuse, atomately mealy, sulcate ; g. pale flesh-colour ; s. 1·5—2 cm. pubescent, base swollen ; sp. — .

[**candidus**, Pat. Small. P. convex, even, white, silky ; g. rosy ; s. white, downy, base thickened.

*** *Pileus naked, glabrous.*

roseoalbus, Fr. P. 4—7 cm. exp. even, glabrous, rosy, edge naked ; g. rather distant, flesh-colour ; s. 4—6 cm. solid, attenuated, whitish or tinged red, with white meal ; sp. rough, subgl. 5—6.

leoninus, Schaeff. P. 3—5 cm. thin, campan. then exp. glabrous, naked, yellow, or tinged tawny ; g. yellowish flesh-colour ; s. 4—7 cm. solid, glabrous, striate, whitish ; sp. — .

var. *coccineus*, Cke. P. crimson-orange or vermilion.

[**luteomarginatus**, Roll. P. obtuse, umb. campan. deformed then exp. yellow, but at same time covered with sooty down, striato-virgate ; g. crowded, rosy, edge golden-yellow ; s. silky, yellow with rosy fibrils ; sp. 7·5 × 6.

chrysophaeus, Schaeff. P. 3—4 cm. campan. exp. naked, glabrous, virgate, cinnamon, edge striate ; g. white then flesh-colour ; s. imperfectly hollow, glabrous, whitish or yellowish ; sp. — .

phlebophorus, Ditm. P. 3—5 cm. convex then exp. rugosely veined, umber, edge even, naked ; g. white then flesh-colour ; s. 3—4 cm. subincurved, glabrous, shining, whitish ; sp. — .

var. *marginatus*, Q. P. rugose, granulate, clear brown ; g. with sooty crenulate edge ; s. pellucid, white ; sp. glob. 8.

[**Godeyi**, Gill. P. campan. then exp. umb. very glabrous, rugulose, striate, livid grey sometimes tinged green, rather viscid ; g. broad, joined by veins ; s. white or tinged grey.

[**aurantio-rugosus**, Trog. P. campan. then conico-exp. areolately wrinkled, reddish yellow, disc almost vermilion ; g. crowded, serrulate, broad ; s. yellowish, thickened below and tinged red, brown-fibrillose ; sp. globose.

[**cyanopus**, Q. P. rugosely granular, pruinose, umber-bay ; g. remote from s., white then glaucous ; s. silky, blue, base cottony, white ; sp. 6 diam.

umbrinellus, Sommerf. P. convex, exp. even, edge fimbriate ; g. white then flesh-colour ; s. fistulose, rooting, tough, glabrous, shining.

[**tenuiculus**, Q. P. rather small, subglobose, striate, umber ; g. semiorbicular ; s. slender, pruinose, white ; sp. glob. 10.

ENTOLOMA, Fr.

I. Genuini. *Pileus glabrous, moist or viscid.*

sinuatum, Fr. P. 8—14 cm. compact, exp. and depr. wavy, even, yellowish white; g. very broad, crowded; s. 7—12 cm. solid, fibrillose, white; sp. rough, 8—9. Poisonous.

lividum, Bull. P. 7—10 cm. exp. dry, even, longitudinally fibrillose, livid tan; g. broad; s. 5—7 cm. white, glabrous, apex pruinose; sp. subgl. rough, 8—10.

var. *roseus*, Cke. P. whitish ochre, disc rosy.

prunuloides, Fr. P. 5—7 cm. campan. then exp. and umb. glabrous, rather viscid, yellowish or livid then pale; g. emarginato-free, ventricose; s. 6—8 cm. solid, unequal, white; sp. subgl. rough, 8—10.

porphyrophaeum, Fr. P. 4—6 cm. campan. then exp. umb. and wavy, smoky fuscous then pale; g. truncate behind, almost free; s. 5—7 cm. solid, narrowed from the thickened base, fibrous, naked, smoky purple; sp. rough, 8—10.

Differs from *E. jubatum* in glabrous p. and hollow s.

repandum, Bull. P. 3—5 cm. conical then exp. umb. pale ochre striate or spotted with darker colour, edge incurved, lobed; g. broadest in front; s. 3—5 cm. solid, silky, white; sp. globose, rough, 8. (11 × 6 Sacc.)

erophilum, Fr. P. exp. obtuse, dry, pale grey, virgate or venosely striate; g. rounded-adnate, broad; s. solid, short, pruinose; sp. 8 × 6.

Often growing in large circles.

[**holophaeum**, Bres. and Schulz. (*Ag. plebejoides*, Schulz.) Entirely umber outside and inside, pileus and base of stem darkest; g. at length greyish; sp. r. 8—10.

[**pyreniacum**, Q. P. umb. silky-virgate, silvery grey; g. greyish; s. white, fibrillosely striate; sp. rough, 12 long.

placenta, Fr. P. 3—5 cm. exp. umb. plane, even, regular, livid purplish; g. crowded, thickish; s. 4—7 cm. solid, fibrously striate, brown; sp. glob. 8.

helodes, Fr. P. 5—7 cm. exp. plane, subumb. livid purplish or smoky, often spotted; g. attenuato-adnate, white then rosy; s. 5—7 cm. hollow, pallid, fibrillose, base somewhat thickened; sp. globose, rough, 10.

[**quisquilaris**, Karst. P. convex exp. subumb. slightly pruinose, reddish or reddish-bay, disc darker, edge incurved, even; g. crowded; s. subequal, reddish then blackish-bay; sp. 7—10 × 4—5.

[**fuliginarium**, Karst. P. convex then subdepr. glabrous, edge incurved at first, pellucidly striate, pitch-black then livid; g. adnate, crowded, oblong, pallid; s. paler than p., apex white pruinose; sp. — .

bulbigenum, B. and Br. (= *E. Persoonianum*, Phil. and Plow.) P. 2—3 cm. campan. or hemispher. obtuse, slightly tomentosely scaly, white; g. adnexed; s. 5—7 cm. fibrillose, whitish, hollow, base somewhat bulbous; sp. rough, 13—15.

Batschianum, Fr. P. 2—3 cm. umb.-convex then plane and depr. even, viscid, blackish; g. grey; s. 5—7 cm. tough, adpressedly fibrillose, grey, base narrowed; sp. subgl. rough, 7—9.

[**cudon**, Fr. P. tough and cartilaginous, conical, acute, blackish umber, edge incurved; g. crowded, smoky purple; s. short, glabrous, pallid.

Bloxami, Berk. P. 2—3 cm. campan. obtuse, dingy blue, purple, or slate-colour, edge inclined to be lobed; g. pale rose; s. 3—4 cm. solid, colour of p.; sp. globose, rough, 9—10.

ardosiacum, Bull. P. 3—5 cm. campan.-convex, obtuse, deep blue with brown tinge, then greyish; g. free; s. 5—7 cm. hollow, blue, base white; sp. subgl. rough, 9—10.

[**nitidum**, Q. (= *E. ardosiacum*, Fr. Ic. t. 94, f. 4, not of Bull.) P. campan. silky-shining, dusky bluish-violet, edge lilac, flesh white; g. free, broad, white then flesh-colour; s. slender, often twisted, shining, colour of p.; sp. rough, 8.

madidum, Fr. Smell strong. P. 3—5 cm. campan. exp. obtuse, viscid, blackish-violet, sooty when old; g. greyish white; s. 5—8 cm. hollow, violet, thickened base white; sp. rough, 8.

liquescens, Cke. P. 3—5 cm. exp. broadly umb. ochre, disc darker; g. free, white then dingy lilac; s. 5—8 cm. white, hollow; sp. subgl. rough, 7—8.

Gills deliquesce when mature.

[**excentricum**, Bres. P. campan. exp. mammilate, glabrous, tinged tan; g. emarginate; s. cylindrical, colour of p. apex scurfy, always excentric; sp. rough, 10—18.

[**viridans**, Fr. P. conical then exp. viscid, umb. olive-green; g. nearly free, crowded; s. hollow, glabrous.

[**rubellum**, Scop. P. exp. obtuse, even, viscid, reddish; g. crenulate, rosy; s. hollow, slightly downy, white; sp. 11 × 6.

ameides, B. and Br. P. 3—5 cm. campan. often irreg. flocculent, soon glabrous and silky, pale reddish-grey; g. deeply rounded behind, rugulose; s. 3 cm. whitish; sp. subgl. rough, 10.

II. Leptonidei. *Pileus flocculose, somewhat scaly, absolutely dry, not hygr.*

Saundersii, Fr. P. 5—8 cm. campan. exp. wavy and lobed, adpressedly tomentose, white, tinged brown when old; g. broad, distant; s. 8—12 cm. solid, equal, white; sp. — .

fertilé, B. P. 9—14 cm. convex then plane, dry, pulverulently scaly, pallid reddish or reddish ochre; g. rounded behind; s. 9—12 cm. equal, base thickened, whitish, fibrilloso-squamulose, solid; sp. — .

[**Rozei**, Q. P. umb. grey, silky shining, edge lilac; s. slender, fibrillose, white; sp. rough.

jubatum, Fr. P. 3—7 cm. campan. exp. umb. downy-squamose or fibrillose, mouse-colour; g. crowded, smoky; s. 5—7 cm. hollow, equal, fibrillose, fuscous; sp. rough, 10—11 × 6.

Differs from *E. porphyrophaeum* in squamulose p. and hollow s.

[**scabiosum**, Fr. P. campan. then plane, obtusely umb. sooty, rough with crowded, erect papillose scales; g. free, greyish-white; s. hollow, fibrillose, sooty; sp. rough, 10—12.

resutum, Fr. P. 2—3 cm. convex, obtuse, fuscous, disc darkest, adpressedly scaly or fibrillose; g. ventricose, greyish; s. 4—7 cm. somewhat stuffed, glabrous, grey; sp. rough, 8—9 × 6.

griseocyaneum, Fr. P. 2—3 cm. campan.-convex, obtuse, floccosely scaly, grey tinged lilac; g. white then flesh-colour; s. 3—4 cm. hollow, floccosely fibrillose, pallid then blue; sp. rough, 8—10.

Resembling *Leptonia*, but soft not cartilaginous.

dichroum, Pers. P. camp. exp. umb. squamulosely fibrillose, violet then livid mouse-colour; g. sinuato-adnexed; s. blue, fibrillosely mealy; sp. reddish fuscous, rough, 10—12 × 5—8.

sericellum, Fr. Shining white. P. 1·5—3 cm. exp. depr. silky; g. adnate, then seceding; s. 3—4 cm. fibrillose then polished; sp. subgl. rough, 10.

Differs from *E. speculum* in smaller size and silky p.

var. *sublutescens*, Fr. P. more regular, convex, even, yellowish; g. almost adnate; s. fistulose.

var. *lutescens*, Henn. P. campan. more or less exp. at first white and silky-floccose, then glabrous and dingy yellow; s. white then yellowish; sp. rough, 8.

Cookei, C. Rich. (= *Pluteus phlebophorus*, var. *reticulatus*, Cke.) P. convex then exp. reddish orange or pale brick-red, covered with raised veins forming a network; g. adnexed; s. 2—3 cm. solid; sp. globose, rough, 8.

Thomsoni, B. and Br. P. 3—5 cm. exp. umb. grey, with a network of raised ribs; g. slightly adnexed; s. 3—4 cm. paler than p.; sp. 6 × 3·5.

[**subrubens**, Karst. P. conico-exp. umb. adpressedly squamulose or fibrillose, glabrous, mouse-colour; g. sinuato-adnexed, edge crenate; s. hollow, scurfy then glabrous, paler than p. reddish; sp. rough, 9—12 × 7—8.

[**indutum**, Boud. Small, entirely grey. P. campan. then. exp. umb. coarsely fibrillose; g. broad, uncinate, powdered with the rosy spores; s. slender, fibrillose.

tortipes, Mass. P. 6—7 cm. convex then exp. umb. often depressed, dark brown then tan and shining; g. broadly adnate; s. 4—5 cm. silky-fibrillose, flexuous, white tinged tan; sp. 5 × 3.

Differs from *E. clypeatum* in elliptical sp.

III. Nolanidei. *Pileus thin, hygr. rather silky when dry. Often wavy and deformed.*

clypeatum, L. P. 5—7 cm. campan. then exp. umb. lurid then greyish ; g. serrulate ; s. 7—9 cm. stuffed, attenuated, fibrillose, pallid ; sp. subgl. rough, 9—10.

nigrocinnamomeum, Kalchbr. P. 5—7 cm. convex then exp. depressed round the umbo, blackish umber, even, glabrous ; g. reddish cinnamon ; s. 4—6 cm. hollow, somewhat twisted, fibrillose, greyish fuscous ; sp. subgl. rough, 8 × 9.

Differs from *E. clypeatum* in hollow stem and entire edge of gills.

rhodopolium, Fr. P. 5—12 cm. campan. then exp. gibbous then subdepr. edge wavy at first incurved, brown or livid then pale and silky shining ; g. adnate then sinuate ; s. 5—9 cm. hollow, glabrous, shining white ; sp. rough, 8—10 × 6—8.

[**pluteoides**, Fr. P. splitting, convex, exp. obtuse, greyish white when moist, dingy yellowish when dry ; g. emarginato-adnexed, crowded ; s. hollow, rigid, cuticle fibrillose, white, usually rooting.

[**elaphinum**, Fr. P. convex, obtuse, glabrous, bright fawn when moist, pallid fuscous when dry, edge striate ; g. somewhat truncate behind, very broad ; s. hollow, naked, livid ; sp. rough, 10 × 6.

[**turbidum**, Fr. P. campan. convex, umb. margin at first straight and adpressed to stem, then split into striae, somewhat fuscous, grey when dry ; g. crowded, greyish white ; s. hollow, inflato-clavate, glabrous, even, silvery shining ; sp. 8—11 × 7—8.

majale, Fr. P. 3—7 cm. campan.-convex, umb. edge spreading, wavy, cinnamon, yellowish when dry ; g. crenate ; s. 7—9 cm. twisted, striate, whitish, base with white down ; sp. rough, 10—14 × 7—10.

Wynnei, B. and Br. Smell unpleasant. P. 3—4 cm. convex then exp. subumb. often wavy, smoky grey, velvety then squamulose ; g. broad, transversely ribbed ; s. 3—5 cm. smoky blue, base downy, white ; sp. rough, 10—11 × 7—8.

Smell resembling that of bugs.

costatum, Fr. P. 4—6 cm. bullate then plane, subumbil. wavy, glabrous, livid fuscous then shining ; g. nearly free, entire, transversely ribbed, pallid ; s. 4—5 cm. deformed, substriate, grey, apex with white squamules ; sp. rough, 12—14 × 8—11.

[**Cordae**, Karst. Differs from *E. costatum* in blackish umbilicate p. ; smaller sp. rough, 5—6. Other points identical.

sericeum, Fr. Smell strong, like meal. P. 2—3 cm. exp. greyish fawn when moist, livid and silky shining when dry ; g. grey, emarginate ; s. 2—3 cm. fistulose, fibrillose, paler than p. ; sp. globose, rough, 7—8.

Differs from *Nolanea pascua* in mealy smell, and broad distant gills cut out behind.

[**mimicum**, Karst. P. campan. obtuse, then exp. glabrous, fuscescent; g. adnate, whitish then dingy; s. hollow, equal, cartilaginous, glabrous, livid; sp. 9—12.

[**venosum**, Gill. Smell strong of meal. P. thin, convex, subumb. brownish, silky and shining when dry; g. free, broad, transversely veined, reddish-grey; s. fragile, fibrillose, rather squamulose at apex.

Differs from *E. sericeum* in free g.

[**praecox**, Karst. P. fragile, conico-convex, at length umb. glabrous, silky-shining; g. ventricose, crowded, dingy then flesh-colour; s. fistulose, equal, compr. glabrous, striate, pallid; sp. 7—10.

nidorosum, Fr. Smell alkaline. P. 4—7 cm. convex then exp. and subdepr. greyish fawn, livid and with a silky sheen when dry; g. broad, wavy; s. 4—7 cm. stuffed, equal, glabrous, pallid, apex with white meal; sp. rough, 8—10 × 7—8.

Smell sometimes very faint.

speculum, Fr. Whitish. P. 2—4 cm. exp. subdepr. very glabrous, shining when dry, edge incurved, wavy; g. emarginate, broad; s. equal, very fragile, striate; sp. subgl. rough, 12. (12—14 × 7—8 Sacc.)

NOLANEA, Fr.

* *Gills grey or somewhat fuscous. Pileus dusky, hygr.*

pascua, Pers. P. 2—3 cm. conico-exp. subumb. striate, livid bistre, paler and shining when dry; g. crowded, narrowed behind, greyish; s. 3—5 cm. silky-fibrous, striate, pale; sp. rough, 9—10.

var. *umbonata*, Q. P. acute, umb. bay; s. fibrilloso-striate, silvery.

[**proletaria**, Fr. P. campan.-exp. obtuse, somewhat umber, disc darker, villose; g. sooty grey; s. fibrous, very fragile, grey; sp. rough, 10—12 × 6.

[**versatilis**, Fr. P. convex then flattened, glabrous, shining, livid aerugineous; g. grey; s. greyish white, with a silvery sheen when dry.

[**limosa**, Fr. Smell strong of meal. P. campan. obtuse, glabrous, sooty, hoary-silky when dry; g. adnate, grey; s. polished, base inflated, glabrous.

Babingtonii, Blox. P. 1—1·5 cm. conico-campan. pale grey, silky, with fasciculate fibrils, disc squamulose; g. adnate, grey; s. 2—3 cm. hollow, rather wavy, strigose and covered with brown down; sp. rough, 7—8.

mammosa, Fr. P. 1·5—2·5 cm. conico-campan. papillate, striate, glabrous, fuscous, pale when dry; g. grey; s. 4—5 cm. rigid, polished, apex with white meal; sp. rough, 7—8 × 5—6.

[**papillata**, Bres. P. subcampan. exp. papillate, striate, fuscous-bay then paler; g. sinuato-adnate; s. shining, glabrous, base with white down; sp. 5—7-angled, 10—11 × 6—7.

[**Bresadolae**, Mass. (=*N. clandestina*, Bres.). P. campan. exp. umb. or papillate, glabrous, shining, striate, umber-bay or almost black then rufescent; g. thick, umber then fuscous-purple; s. polished, blackish-bay, subequal; sp. 5—6-angled, 9—10 × 7.

[**clandestina**, Fr. Umber. P. hemispher. umb. slightly striate, glabrous, silky when dry; g. very distant, thick, umber then purplish; s. short, naked.

[**bryophila**, Boud. and Roze. P. conico-campan. striate, apiculate, pale rufous brown, apex blackish; g. nearly free; s. cartilaginous, semipellucid, equal.

juncea, Fr. P. 1·5—2 cm. conical then exp. radiately striate, sooty umber, disc subumbil. subsquamulose; g. obovate, grey then brownish purple; s. 4—6 cm. slender, fuscous; sp. rough, 10—12.

[**fumosella**, Wint. (=*A. fumosus*, Rab.). P. subconic, then subexp. umbil. subpellucid virgate, reddish grey, sometimes white-floccose, silky shining when dry; g. adnexed, subtriangular, closely crowded, grey then brownish; s. colour of p., base albo-floccose, rooting, slightly viscid.

fulvostrigosa, B. and Br. P. 2—3 cm. conico-campan. subumb. rugulose, ochre with olive tinge; g. adnexed; s. 4—5 cm. hollow, mealy-squamulose, base densely strigose with reddish fibrils; sp. rough, 10 × 6; cystidia conical.

** *Gills yellowish or reddish.*

nigripes, Trog. Smell of stinking fish. P. 2—3 cm. conico-campan. obtuse, even, fuscous with paler flecks; g. yellowish pink; s. 7—10 cm. twisted, glabrous, black; sp. — .

pisciodora, Ces. Smell of stinking fish. P. 2—3 cm. conico-campan. obsoletely umb. tawny cinnamon, soft like velvet; g. adnexed; s. 5—7 cm. chestnut then blackish, apex paler, rather velvety; sp. — .

rufocarnea, B. P. 2—3 cm. hemispher. umbil. reddish brown slightly fibrillose; g. ventricose, veined, salmon; s. 4—5 cm. hollow, pale reddish brown, apex paler; sp. 9—10 × 6.

[**vinacea**, Fr. P. campan.-convex, obtuse, slightly striate, rufescent; g. distant; s. even, glabrous, yellow.

var. *squamulosa*, Karst. P. campan. subumbil. coarsely striate, scurfy; g. edge floccosely crenulate, golden; s. glabrous, yellowish; sp. rough, 10—12 × 7—8.

[**cetrata**, Fr. P. camp. then exp. glabrous, furcato-sulcate, yellow; g. pallid yellow; s. fragile, glabrous, yellow; sp. rough, 10—12 × 10.

[**cuneata**, Bres. P. conico-cuspidate, glabrous, striate, lurid yellow, cusp yellowish, g. pale yellow then brownish flesh-colour; s. yellowish, apex with white scurf, base with contorted fibres; sp. angular, 10—12 × 7—8.

[**carneovirens**, Jungh. P. campan. deeply striate, greenish yellow; g. free, broad; s. solid, glabrous, dusky aerugineous; sp. 11—12 × 7—8.

icterina, Fr. P. 2—4 cm. campan.-convex, striate, papillate, yellowish green, hygr.; g. distant, ventricose; s. 3—4 cm. rigid, floccosely mealy, colour of p. or brownish; sp. rough, 11—12 × 8.

subglobosa, A. and S. P. 2 cm. hemispher. even, viscid, yellowish; g. nearly free, rhomboid; s. 3—4 cm. striate, pale; sp. 9 × 7.

[**hesperidium**, Brig. P. broadly campan. even, waxy yellow, disc darker; g. free, crowded; white then greyish violet, edge at length blackish; s. even, shining white.

[**pleopodia**, Bull. P. campan. then exp. and edge upraised, even, yellowish; g. narrowed behind, dingy flesh-colour; s. equal, yellowish white, apex pruinose; sp. 10—12 × 4.

* * * *Gills white then rosy. Hygroph.*

picea, Kalchbr. Smell of stinking fish. P. 2—3 cm. conical then campan. papillate, even, glabrous, pitch brown then umber; g. emarginate; s. 3—5 cm. slightly pruinose, colour of p.; sp. 7—8 × 5.

Differs from *N. pisciodora* in colour of gills and p.

[**hirtipes**, Fl. Dan. P. conico-campan. fuscous; g. free, obovate, rosy; s. slender, glabrous, colour of p. hirsute below; sp. rough, 7—9.

infula, Fr. Very tough. P. 2 cm. conical then exp. papillate, shining, dark grey then pale; g. narrow, closely crowded, pure white then rosy; s. 4—5 cm. rigid, glabrous, naked, fuscous; sp. — .

var. *versiformis*, Fr. P. convex then depr. or even infundib. but persistently papillate.

[**viridifluens**, Lasch. P. campan. subumbil. dry, fibrous, fuscous olive; g. adnate, broad; s. greenish-yellow.

Exuding a green juice when broken.

[**staurospora**, Bres. P. conico-campan. hygr. brownish umber, margin striate; g. subadnexed, white then flesh-colour; s. livid, fibrilloso-striate, often twisted, tall, albo-floccose at base; sp. almost quadrangular-stellate, 10—12.

Differs from *N. hirtipes* in larger size, fibrillose stem, downy, not strigose at base.

* * * * *Gills whitish. Not hygr.*

verecunda, Fr. P. 1—1·5 cm. campan.-convex, disc rather fleshy, subumb. watery reddish, striate towards edge, flocculose; g. adnate; s. 3—4 cm. pallid, apex mealy; sp. 10—12 × 5—8.

coelestina, Fr. P. 1·5—2 cm. campan. obtuse, blue, disc darker, scabrid; g. adnate, very broad; s. 2—3 cm. blackish blue, apex pruinose; sp. glob. 10.

[**cruentata**, Q. P. campan. mammilate, edge exp. pruinose, bluish-lilac; g. broad; s. slender, glaucous or bluish, rufescent when touched; sp. rough, 10.

exilis, Fr. P. 2 cm. conico-exp. striate, livid grey, apex darker and papillate; g. adnexed; s. 4—6 cm. filiform, bluish green, apex naked; sp. — .

[**Kretzschmarii**, Rab. P. ovate then exp. reddish then greyish white, umbo rather fleshy, pellucidly striate at edge; g. decur.; s. yellowish brown, base floccosely rooting.

rubida, Berk. P. up to 1 cm. convex then exp. umbil. whitish grey then rufescent, minutely silky; g. adnate, slightly decur.; s. 4—6 mm. white; sp. 4—5 × 3.

[**cocles**, Fr. Small. P. at first cucullate, furcato-sulcate, disc umbil., umber, scabrid, becoming exp.; g. adnate, broad, distant; s. glabrous, livid.

[**monachella**, Q. P. campan. apiculate, striate, diaphanous, white, centre spotted sooty; g. adnate, uncinate; s. bulbillose, white, hyaline; sp. rough, 10—12 × 6—8.

[**minuta**, Karst. P. convex, sometimes subumbil. striate up to umbilicus, glabrous, pallid fuscous, paler when dry and shining; g. adnate, pallid; s. pallid fuscous, glabrous; sp. rough, 7—9.

LEPTONIA, Fr.

* *Gills whitish. Pileus rather fleshy, not striate, not hygr.*

[**Linkii**, Fr. P. convexo-plane, fibrillosely virgate, sooty black then grey, disc darker; g. white then flesh-colour, edge black; s. glabrous, smoky, base incurved; sp. 10 long.

[**Forquignoni**, Q. P. umbil. wavy, rugulosely striate, granulated, olive, diaphanous; g. eroded, hoary; s. slightly striate, silky; sp. rough, 11 long.

placida, Fr. P. 2—3 cm. convex, obtuse, grey or bluish, downy disc darker, fibrillosely scaly; g. adnexed, broad, entirely whitish; s. 4—7 cm. blackish-blue, apex with white bloom and very minutely spotted black; sp. — .

Differs from *L. lappula* in p. not being umbil.

anatina, Lasch. P. 3—4 cm. campan. indistinctly umb. greyish brown, longitudinally fibrillosely squamulose; g. adnexed, broad; s. 3—4 cm. bluish, pruinose then fibrillosely squamulose, apex even (not spotted black); sp. 8 × 5. (10—12 × 7—8 Sacc.)

Differs from *L. placida* and *L. lappula* in not having black points at apex of stem.

lappula, Fr. P. 2—3 cm. exp. umbil. grey, even, the darker umbilicus with erect fibrils, giving a muricellato-punctate appearance; g. broad, crowded; s. 4—5 cm. brownish-lilac or blackish-purple, apex naked and with black points; sp. — .

lampropoda, Fr. P. 2—3 cm. convex then exp. or subdepr. flocculose then squamulose, sooty grey then paler; g. adnate, ventricose; s. 3—4 cm. even, firm bluish violet, apex not black spotted; sp. rough, 10—11 × 6—7.

Differs from *L. asprella* in even p. not being umbilicate.

var. *cyanulus*, Lasch. Slender. P. subumbil. floccosely villose, blackish blue; s. capillary.

aethiops, Fr. P. 1·5—2·5 cm. plano-depr. even, shining, black then smoky, glabrous but innately fibrillosely virgate; g. adnate, entirely whitish; s. 3—5 cm. blackish brown, black punctate upwards; sp. rough, 10 × 7.

Differs from *L. lampropoda* in black punctate s.

solstitialis, Fr. P. 1—1·5 cm. exp. at length depr. papillate, rugulose, obsoletely innately fibrillose, fuscous; g. emarginate, broad; 2—3 cm. smoky, glabrous; sp. rough, 12—14 × 7.

[**camelina**, Lasch. P. obtuse, pallid rufous; g. arcuate, crowded; s. stuffed, fibrillose, base curved.

[**Turci**, Bres. P. convex, umbil. then exp. brown-umber then tan, densely downy then squamulose; g. broad; s. hollow, compr. livid cinnamon; flesh white, rosy when broken; sp. angular, 11—12 × 7—8.

** *Gills at first bluish or grey.*

serrulata, Pers. P. 2—3 cm. hemispher. exp. umbil. rather scaly, blackish blue; g. broad, edge black-serrulate; s. 2—3 cm. paler than p. with black points above; sp. rough, 12—14 × 6—8.

euchroa, Pers. P. 1·5—2 cm. campan.-convex, obtuse, fibrillosely scaly, violet; g. violet, edge darker, entire; s. 2—3 cm. violet, not black punctate; sp. rough, 10 × 7—8.

Differs from *L. chalybea* and *L. lazulina* by growing on wood.

chalybea, Pers. P. 2—3 cm. convex, subumb. not striate, flocculose then squamulose, dark violet; g. greyish-white, edge rather paler; s. 3—5 cm. blue, not punctate; sp. 10 × 6.

Differs from *L. lazulina* by p. not being striate.

lazulina, Fr. P. 1·5—2 cm. campan. striate, at first glabrous then cracked into squamules, sooty black; g. adnate, equally narrowed from stem to edge of p. pallid grey; s. 4—5 cm. blue, not punctate; sp. 10 × 6.

[**Bresadolae**, Schulz. P. subglobose then exp. umbil. and depr. umber, minutely squamulose; g. pale violet; s. bright blue, base bulbous with white down; sp. rough, 8—10.

[**Bizzozeriana**, Sacc. P. umb. exp. dusky grey with dark scurf; g. dusky vinous-purple; s. dusky purple; sp. 7 × 3.

[**Gorteri**, Weinm. P. convex, obtuse, velvety-squamulose, grey then pale, edge white-fimbriate; g. fuscous purple, shining; s. purple violet.

*** *Gills fuscous- or dusky-purple.*

[**calimorpha**, Weinm. P. conico-convex, umb. densely squamulose, sooty or black; g. nearly free, ventricose, with a purple sheen, edge black; s. blackish-purple.

[**aquila**, Fr. P. exp. deeply umbil. bay; g. sinuato-adnexed, very broad; s. stuffed, fuscous, thickened upwards.

[**pyrenaica**, Pat. and Doas. P. convexo-plane, 4—5 mm. slightly umb. edge incurved, reddish brown; g. pale red, adnate with a tooth; s. solid, curved, colour of p.; sp. 5—6.

**** *Gills pallid. Pileus yellow or greenish then pale.*

incana, Fr. P. 2—3 cm. exp. umbil. glabrous, somewhat virgate, brownish green; g. adnate with decur. tooth, greenish white; s. 3—5 cm. shining, brownish green; sp. rough, 8—9.

[**euchlora**, Lasch. P. campan. convex, not striate, yellow-green with brown fibrils, darker disc impressed; g. adnate; s. squamulosely fibrillose, greenish-yellow, base aerugineo-tomentose; sp. 10—14 × 6—8.

formosa, Fr. P. 2—3 cm. exp. subumbil. slightly striate, yellow wax-colour with brown adpressed fibrils and scattered squamules; g. adnate, pallid yellow; s. 4—5 cm. striate, shining, yellow; sp. 10—12 × 8.

var. *suavis*, Lasch. S. becoming bluish.

chloropolius, Fr. P. 2—3 cm. exp. striate, livid, centre with black squamules; g. adnate, pallid; s. 4—5 cm. even, bluish-green; sp. rough, 7—8 × 5. (12—14 × 6—8 Sacc.)

[**pallens**, Karst. P. convex exp. disc slightly depr. glabrous, livid, pale and shining when dry; g. adnate, seceding; s. pallid, glabrous; sp. rough, 9—10.

[**melleo-pallens**, Karst. P. convex, entirely striate, glabrous, shining, brownish honey-colour then pale; g. soon free, edge darker; s. colour of p. base with white down; sp. rough, 13—15 × 10—11.

***** *Gills grey or glaucous. Pileus hygr. substriate.*

asprella, Fr. P. 3—4 cm. exp. glabrous or fibrillose, striate, umbilicus downy then squamulose, sooty then livid grey; g. adnate, equally narrowed to the edge; s. 3—4 cm. slender, even, glabrous, livid, tinged green or blue; sp. 10—12 × 6—8.

[**scabrosa**, Fr. P. exp. umbilic. from the first, not striate, squamulose, sooty-brown, then grey, hygr.; g. adnate, segmentoid, grey; s. even, apex with black points and white meal.

nefrens, Fr. P. 3—4 cm. exp. then infundib. hygr. rather wavy, livid sooty, depression darkest, pale when dry; g. broad, edge blackish, entire; s. 2—3 cm. glabrous, livid fuscous; sp. 4—5 × 3.

Differs from *L. serrulata* in entire edge of g. and absence of black points at apex of s.

[**sarcita**, Fr. Fragile. P. exp. radiato-striate, uniform, hygr. torn into fibrillose scales, smoky, hoary when dry; g. linear, thick, distant, glaucous; s. short, glabrous; sp. 10 - 12 × 8.

* * * * * * *Gills white.*

[**Kervernii**, Guern. P. fleshy-ochre or buff yellow, dotted with flecks; g. free, ventricose; s. slightly squamulose, shining white, often compr. base cottony.

[**Queletii**, Boud. P. white with scattered rosy-amethyst flecks; g. white then rosy; s. white then yellowish; sp. rough, 14.

[**sericella**, Bull. Shining white. P. silky; g. flesh-colour; s. slender, fibrillose.

[**Gillotii**, Q. Diaphanous, becoming hyaline white. P. striate, umbil. tinged olive; s. fistulose, silky, base white-downy; sp. rough, 9.

[**parasitica**, Q. Pruinose, shining white. P. orbicular; g. sinuate, white then rosy; s. arcuate, apex dilated.

[**aemulans**, Karst. P. convex, umbil. innately squamulose, grey, opaque; g. adnate, broad, smoky; s. glabrous, dusky livid, base whitish.

Resembles *Clitopilus vilis*.

CLITOPILUS, Fr.

I. Orcelli. *Gills deeply decur. Pileus irreg. subexcentric, wavy, scarcely hygr. edge at first flocculose.*

prunulus, Scop. Smell like new meal. P. 5—9 cm. compact, convex and regular then wavy, dry, pruinose, greyish white; g. rather distant; s. 2—3 cm. ventricose, naked, striate, white; sp. 7—8 × 5. Edible.

orcella, Bull. Smell like new meal. P. 5—7 cm. soft, plano-depr. irreg. from first, silky, rather viscid when moist, yellowish-white; g. crowded; s. 2 cm. flocculose, thickened upwards; sp. 7 × 4.

mundulus, Lasch. P. 3—5 cm. plano-depr. unequal, dry, white; g. closely crowded, narrow; s. 2—3 cm. floccosely villose, white, becoming blackish inside; sp. 10 × 5.

[**pseudoorcella**, Fr. P. exp. depr. even, somewhat fuscous, but silkily hoary; g. broad, distant, greyish white; s. solid, short, outside and inside greyish-brown.

popinalis, Fr. Entirely grey. P. 3—5 cm. flaccid, rather wavy, glabrous; g. crowded, dark grey; s. 3—4 cm. equal, naked; sp. rough, 4—5.

undatus, Fr. P. 2—3 cm. deeply umbil. wavy, fragile, sooty grey, pale and silky opaque; g. dark grey; s. 2—3 cm. hollow, colour of p.; sp. rough, 6—8. (10—12, Quél.)

var. *viarum*, Fr. P. often excentric, greyish hoary, shining, with darker zones.

[**concentricus**, Gill. P. convex, umbil. edge wavy, greyish or reddish with brown broken concentric lines; g. reddish grey; s. pale reddish with abundant white down at base.

cancrinus, Fr. P. 2—3 cm. convex-umbil. then exp. unequal, flocculose, smooth, pale reddish-white; g. decur. distant; s. 2 cm. tough, glabrous, white; sp. rough, 5—6.

cretatus, B. and Br. P. 1—2 cm. convex then umbil. thin, dead white but shining, edge incurved; g. very decur.; s. 4—6 mm. white; sp. subgl. 4—5. (7 × 3 Phil., 11—12 long, Quél.)

[**lentulus**, Karst. P. plano-depr. often irreg. rather silky, rather viscid when moist, whitish; g. decur. closely crowded, narrow, pallid; s. solid, equal, wavy, flocculose, pallid; sp. rough, 2—4.

II. Sericelli. *Pileus regular silky or hygr.-silky, edge involute, naked. Gills adnate, slightly decur.*

carneoalbus, Wither. P. 1·5—2·5 cm. convex then exp. and depr. edge drooping, white, polished; g. crowded; s. 2—3 cm. equal, solid, white; sp. rough, 7—8.

[**angustus**, Pers. P. convexo-plane, subumb. grey, silky-shining when dry; g. tinged flesh-colour; s. glabrous, white, base incurved, downy; sp. 7—8 × 5.

sarnicus, Mass. P. 2—3 cm. becoming plane, subumbonate, grey, silky; g. plane then suddenly decurrent near the stem, reddish; s. 2—3 cm. flexuous, white, smooth; sp. nodulose, 7—8 × 6.

[**nidusavis**, Secr. P. plano-umb. floccosely-scurfy, greyish brown, at length wavy; g. broad, thickish, white then flesh-colour; s. flocculose, thickened at both ends, base with white down; sp. 8—9 × 6.

[**hydroionides**, Cesati. Tough, violet then grey. P. convex, obsoletely umb. hygr.; g. adnato-decur. whitish; s. hollow, short, even.

vilis, Fr. P. 2—3 cm. convex, umbil. slightly striate, grey, silky-flocculose; g. crowded, white then greyish; s. hollow, fibrillosely striate, grey; sp. 7—8 × 6.

[**ionipterus**, Cesati. P. plano-depr. glabrous, violet; g. adnato-decur. bluish; s. solid, pallid, cracked into fibres outside.

[**cicatrisatus**, Lasch. P. convex, umbil. glabrous, not striate, rivuloso-rugulose when adult, fuscous; g. broad, pallid; s. even, base strigose, rooting.

[**neglectus**, Lasch. P. convex then umbil. not striate, floccosely-fibrillose, whitish ochre then pallid; g. adnato-decur.; s. solid, weak, whitish.

straminipes, Mass. P. 3—5 cm. fragile, whitish, shining, soon exp. and depr.; g. whitish then rosy; s. 3—5 cm. straw-colour below, mealy above, hollow; sp. rough, 10—12.

stilbocephalus, B. and Br. P. 2—4 cm. campan. obtuse, edge straight, yellowish-white or greyish, sparkling with atoms; g. veined, adnate or emarginate; s. 4—7 cm. silky-fibrous, white; sp. rough, 12 × 7—8.

Smithii, Mass. P. 2—4 cm. soon plane and orbicular, often wavy, atomate, white or tinged yellow; g. broadly adnate; s. 4—7 cm. surface undulated, pallid with a reddish tinge below; sp. glob. 4.

ECCILIA, Fr.

[**polita**, Pers. P. umbil. glabrous, hygr. livid, shining when dry; g. crowded; s. equal, livid, polished, apex subpruinose.

[**apiculata**, Fr. P. convex, depr. umb. even, hygr. livid, silky when dry; g. rather distant, grey; s. equal, glabrous, livid.

Parkensis, Fr. P. 1·5—2 cm. exp. deeply umbil. glabrous, fuscous, striate to middle; g. crowded; s. 2 cm. colour of p. glabrous; sp. rough, 8—10.

carneogrisea, B. and Br. P. 2—3 cm. convex, umbil. finely striate, greyish pink, edge darker, micaceous; g. subdecur. edge irreg. darker; s. 2—4 cm. colour of p. white down at base; sp. rough, 7 × 5.

griseorubella, Lasch. P. 2—3 cm. deeply umbil. then plane, striate, hygr. umber then hoary; g. slightly decur.; s. 3—4 cm. glabrous, paler than p.; sp. rough, 9—10.

[**Mougeotii**, Fr. (= *E. atrides*, Q.). P. umbil. then infundib. fibrillose then squamulose, greyish lilac, edge blue; g. lilac then pallid; s. elongated, fibrillose, apex floccose, greyish lilac; sp. 7—8.

var. *minor*, Sacc. P. convex then umbil. fuscous violet; g. lilac; s. violet; sp. rough, 9 × 7.

atrides, Lasch. P. plane, deeply umbil. striate, black or brown, black virgate, then pale; g. pallid, edge with black points; s. pallid with black points above; sp. — .

Fries thinks this may be an abnormal form of *Lept. serrulata*.

nigrella, Pers. Tufted, small. P. smooth, umbil. becoming blackish, not virgate; g. flesh colour then grey, edge same colour; s. short, glaucous, not dotted black; sp. — .

United by Fries with *E. atrides*, but considered distinct by Berk. and Broome.

[**nigellus**, Q. Small, bay then blackish; p. striate, umbil. granulated; g. decur. narrow, grey; s. short, glabrous, base woolly; sp. rough, 10.

atropuncta, Pers. P. 1—2 cm. soft, hemispherical, pale grey; g. decur. arcuate, rosy-grey; s. 2—4 cm. rather tough, pallid, shining, with black dot-like squamules; sp. rough, 5—6.

[**calophylla**, Pers. P. hemispher. umbil. sooty umber; g. decur. reddish-purple; s. narrowed upwards, rather thick, somewhat viscid, colour of p., at first purplish, shining.

rhodocylix, Lasch. P. 1—1·5 cm. umbil.-infundib. remotely striate when moist, somewhat fuscous, flocculose and grey when dry; g. very distant, broad; s. 2—3 cm. glabrous, grey; sp. rough, 10.

[**rusticoides**, Gill. P. convex, umbil. striate, glabrous, hygr. brown, paler when dry; g. decur. thick, distant, forked, rufous-brown; s. slender, colour of p.

flosculus, W. G. Sm. P. 1·5—2 cm. deeply umbil. with crystalline particles, irreg. black brown, whitish with age; g. decur. rather wavy; s. 2 cm. reddish; sp. rough.

Probably introduced.

acus, W. G. Sm. P. 1—1·5 cm. deeply umbil. densely pruinose, white, edge striate and incurved; g. thick, distant; s. 2—3 cm. smooth, whitish; sp. rough.

Probably introduced.

[**tristis**, Bres. Smell like spirit-of-wine. P. convexo-subcampan. umbil. edge crisped, striate, moist, glabrous, brown; g. distant, thick, broad, arcuato-decur. fleshy-brown; colour of p. glabrous; sp. rough, 8—10.

CLAUDOPUS, W. G. Sm.

[**translucens**, D. C. P. subsessile, thin, orbicular, wavy, pellucid, white tinged reddish; g. free, pallid then reddish lilac; sp. 4—6 long.

variabilis, Pers. P. 1—1·5 cm. resupinate, then reflexed, tomentose, white, attached by a very short incurved downy stem which disappears when the pileus turns over; g. radiating from an excentric point, distant, white then pink; sp. 3 × 2.

var. *sphaerosporus*, Pat. P. white, tomentose; g. paler than type; sp. globose, echinulate, tinged red.

depluens, Batsch. P. 1—1·5 cm. more or less convex, edge incurved, resupinate then reflexed, white or tinged reddish, usually with a very short downy s.; g. broad, ventricose, grey then tinged rufescent; sp. glob. rough, 5—6. (9—11 × 6—8 Sacc.)

Differs from *C. variabilis* in globose, warted s.

[**inaequabilis**, Sacc. Entirely rusty, stipitate; p. oblique, almost glabrous; g. sinuato-free, ventricose; s. very excentric, short, base dilated, incurved; sp. 8 × 6.

[**macrosporus**, Pat. and Doas. P. exp. depressed at an excentric point corresponding to insertion of stem, reddish brown, striate up to depression; g. broad, distant, reddish; s. short, excentric, enlarged into a flat plate at base; sp. 15—18 × 12.

byssisedus, Pers. P. 1—2 cm. resupinate then horizontal, reniform, plane, downy, grey then pale; g. adnato-decur. greyish-white, reddish with the spores; s. incurved, downy, base surrounded with white fibrils; sp. glob. rough, 6—7.

Differs from *Pleurotus applicatus* by presence of s. and pink sp.

[**Zahlbruckneri**, Beck. P. resupinate then reflexed, sessile, reniform, shining white, downy; g. radiating, reddish, edge paler, denticulate; sp. minutely warted, subg. 6—7.

Differs from *C. variabilis* in denticulate edge of gills and sp.

[**Klukii**, Blonski. P. shell-shaped, reniform, downy, greyish-tan; g. crowded, decur. whitish then bright rosy; s. slightly curved, base white and downy; sp. 5—6 × 3.

Allied to *C. byssisedus* but larger.

[**Peteauxi**, Q. P. cupulate then reniform, wavy, thin, fragile, minutely tomentose, shining white; g. free, sinuate, radiating from a central point which is continued into a very short, white tomentose stem; sp. 7 long.

OCHROSPORAE.

A. *Gills separating spontaneously, or very easily from flesh of pileus.*

Paxillus. Margin of pileus persistently involute; gills decurrent or adnato-decurrent.

B. *Gills not separating spontaneously, nor easily from flesh of pileus.*

* *Stem furnished with a volva, or an interwoven ring, or with both.*

Locellina. Volva and ring both present.
Pholiota. Ring alone present.

** *Volva and ring both absent.*

† *Stem central.*

Pluteolus. Gills free.
Bolbitius. Pileus membranaceous; gills deliquescent at maturity.
Inocybe. Stem fleshy, fibrous externally; pileus fibrillose or scaly; gills sinuato-adnexed.
Hebeloma. Stem fleshy, fibrous externally; pileus glabrous, viscid; gills sinuato-adnexed.
Naucoria. Stem cartilaginous externally; edge of pileus incurved at first; gills adnexed or adnate.

Galera. Stem cartilaginous externally; edge of pileus straight at first; gills adnexed or adnate, often with a decurrent tooth.

Tubaria. Stem cartilaginous externally; gills broadest behind, decurrent or adnato-decurrent.

Flammula. Stem fleshy, fibrous externally; gills adnate or decurrent.

Cortinarius. Universal veil cobweb-like, not forming an interwoven ring, often collapsing and forming a ring-like zone on the stem; stem fleshy, fibrous.

†† *Stem excentric or absent.*

Crepidotus.

PAXILLUS, Fr.

A. Lepista. *Pileus entire, central.*

[**sordarius**, Fr. P. convexo-gibbous then plano-depr. dingy white, edge at length spreading and sulcate; g. adnate, crowded; s. spongy-stuffed, equal, striate, greyish white; sp. 8 × 6.

Alexandri, Fr. P. 4—7 cm. compact, plane then depr. dry, fawn, edge strongly incurved; g. subdecur. yellowish; s. 1—2 cm. stout; sp. 4—5 × 2—3.

lepista, Fr. P. 4—9 cm. plano-depr. dry, dingy white, edge incurved, even, naked; g. deeply decur. rather branched, crowded, whitish; s. solid, stout, pallid; sp. 8 × 6.

Differs from large sp. of *Clitocybe* by strongly incurved p. and dingy spores.

extenuatus, Fr. P. 2—5 cm. rigid, campan. exp. naked, glabrous, moist, brownish tan, edge incurved, downy, even; g. deeply decur. closely crowded, white then dingy; s. 3—5 cm. solid, base tuberous, rooting; sp. — .

panaeolus, Fr. P. 2—4 cm. thin, exp. subdepr. glabrous, moist, white, edge incurved, thin; g. slightly decur. crowded, narrow, pale rusty; s. 2—3 cm. rufescent, thickened below; sp. subg. 5.

var. *spilomaeolus*, Fr. P. with drop-like spots; s. slender, yellowish white; g. pale rusty.

[**nitens**, Lamb. P. convex, fleshy, glutinous in damp weather, shining and velvety when dry, yellow-brown, edge incurved, paler; g. free, sinuate, closely crowded, becoming olive-brown; s. reddish-yellow, base darker.

orcelloides, Cke. and Mass. P. 2—4 cm. thin, exp. snow-white then with greyish blotches, edge incurved; g. adnato-decur. white then brownish; s. 2—3 cm. tapering to base, ochre; sp. 8 × 4.

Differs from *P. panaeolus* in tapering stem and sp.

lividus, Cke. P. 2—5 cm. convex, disc depr. margin arched

and incurved, dingy white or livid ochre; g. decur. broad, white; s. 6—9 cm. narrowed downwards, white; sp. glob. 3—3·5, whitish.

Probably a sp. of *Clitocybe*.

revolutus, Cke. P. 2—3 cm. convex, pale ochre, edge thin, sometimes tinged lilac, a little upturned; g. deeply decur. pale tan; s. 2—3 cm. narrowed downwards, paler than p., often tinged violet at base; sp. glob. 3·5—4.

Differs from *P. lividus* in deeply decur. coloured g.

B. Tapinia. *Pileus usually excentric or resupinate.*

involutus, Fr. P. 7—12 cm. convex then depr. moist, rusty orange, incurved edge downy, flesh pallid; g. branched, broad, anastomosing behind, dingy ochre; s. solid, firm, 3—4 cm.; sp. 8—12 × 5—6.

var. *excentricus*, Fr. P. excentric; s. short, growing on wood.

paradoxus, Cke. P. 2—6 cm. convex then exp. sometimes irreg. densely tomentose, rufous umber with purple tinge; g. decur. connected by veins, yellow; s. 2—3 cm. fibrillose, red and yellow; sp. 20—22 × 7—8.

leptopus, Fr. P. 4—7 cm. excentric, gibbous then depr. yellow-brown, torn into downy squamules, flesh yellow; g. simple, very narrow, yellowish then darker; s. 1—2 cm. solid, base narrowed; sp. 8—9 × 5.

atrotomentosus, Fr. P. 6—12 cm. compact, excentric, gibbous then plano-infundib. dry, torn into granules, rusty; g. adnate, yellowish; s. solid, rooting, densely covered with blackish tomentum; sp. 5 × 3.

[**griseotomentosus**, Fr. P. convexo-plane, gibbous, excentric, oblique, glabrous, tan, becoming rusty when bruised, edge incurved, downy; flesh watery; g. decur. broad, tan; s. stout, tuberous, velvety with grey down; sp. 9 long.

[**chrysophyllus**, Trog. P. campan.-plane, horizontal, cracked into scales, pale cinnamon; g. decur. broad, white then citrin; s. short, ascending, pallid.

crassus, Fr. P. 5—7 cm. oblique, nearly plane and even, becoming rusty; g. rather distant, cinnamon; s. very short, excentric, ascending; sp. 15—18 × 7—8.

Strongly suggests the genus *Flammula*.

[**ionipus**, Q. P. 5—10 cm. shell-shaped, oboval or oblong, glabrous, straw-colour with a tinge of olive, narrowed into a short, bulbous, tomentose, amethyst or lilac stem; flesh soft, citrin; g. decur. transversely veined, branched, tinged olive then cinnamon; sp. 6—7 long.

panuoides, Fr. P. 4—7 cm. shell-shaped, downy then glabrous, sessile becoming resupinate, dingy yellow; g. decur. crowded, branched, crisped, yellow; sp. 4—5 × 3—4.

var. *fagi*, Cke. Gregarious, crisped; g. crisped, orange.

[**lamellirugis**, D.C. P. 2—5 cm. resupinate, cup-shaped then

shell-shaped, downy, yellow; g. decur. branched, wavy and crisped, alveolate at the base, saffron then cinnamon; sp. 6 long.

Perhaps identical with *P. panuoides.*

LOCELLINA, Gillet.

Alexandri, Gill. P. convex, umb. viscid, yellowish-tan, appendiculate; g. adnato-decur. flesh-colour; s. slender, wavy, whitish, with a fibrillose cinnamon veil, base bulbous, volva torn at free edge.

acetabulosa, Sacc. (= *Acetabularia acetabulosa*, B.). P. 2—3 cm. tan, edge deeply striate; g. free, brown; s. 4—5 cm. white, hollow, volva small.

PHOLIOTA, Fr.

A. Humigeni. *Terrestrial, not attached to mosses; rarely caespitose.*

* *Spores rusty.*

aurea, Matt. P. 8—14 cm. hemispher. exp. obtuse, somewhat velvety, pulverulent or obsoletely squamulose, golden tawny; g. adnexed, ventricose, paler than p.; s. 10—16 cm. stuffed, nearly equal, even; sp. 10 × 5.

var. *Vahlii*, Schum. P. even, glabrous; g. almost free.

caperata, Pers. P. 6—11 cm. ovate, exp. with incrusted white flecks, yellow; g. adnate, clay-colour; s. 8—14 cm. white, ring superior, thin, apex scaly; sp. 12 × 4—5.

terrigena, Fr. (incl. *P. Cookei*, Fr.). P. 3—5 cm. exp. fibrillosely silky, dingy yellow; g. adnate, pale yellow rusty olive; s. 4—5 cm. equal, variegated with rusty wart-like scales; veil forming a ring and appendiculate; sp. 5 × 3. (10 × 4—6.)

[**Secretani**, Fr. P. convex, exp. yellow with darker deciduous scales, then glabrous; g. adnate, golden then orange; s. solid, bulbous, floccosely squamulose below ring.

erebia, Fr. P. 2—5 cm. exp. glabrous, rather viscid, lurid umber then pale, edge striate; g. adnate; s. 3—4 cm. pallid, apical ring reflexed and striate; sp. — .

ombrophila, Fr. P. 4—7 cm. exp. even, rusty, hygr.; g. ventricose; s. 6—9 cm. hollow, pallid, ring entire, distant; sp. 8 × 3·5. (13—14 × 6—7 Sacc.)

var. *brunneola*, Fr. P. obtuse, brown; g. narrow.

togularis, Fr. P. 1—2 cm. exp. even, pale ochre; g. yellowish; s. 6—9 cm. apex pale, ring median; sp. 8 × 3·5.

var. *filaris*, Fr. P. thin, campan. exp. obtuse, even, ochre; g. adnate, ventricose, yellow then pale rusty; s. filiform, wavy, glabrous, pallid, ring entire, distant.

Smaller than type, and s. not so yellow.

blattaria, Fr. P. 1—2 cm. exp. subumb. rusty, hygr. edge striate; g. rounded and free, ventricose, cinnamon; s. 2—3 cm. equal, straight, rusty, ring white; sp. 4 × 2.

** *Spores rusty-fuscous.*

dura, Bolton. P. 4—5 cm. rather compact, exp. glabrous, at length cracked into areolae, edge even, tawny then paler; g. adnate; s. 8—12 cm. hard, pale ochre, apex mealy, ring somewhat torn; sp. 8—9 × 5—6.

var. *xanthophylla*, Bres. G. sulphur yellow then umber; sp. 12—14 × 7—8.

praecox, Pers. P. 3—7 cm. soft, exp. obtuse, even, pallid tan; g. crowded, white then fuscescent; s. 4—9 cm. cylindrical, downy then glabrous, ring white; sp. 8—13 × 6—7.

var. *minor*, Fr. Small; ring torn, appendiculate.

[**phragmatophylla**, Guern. P. convex, depr. round broad umbo, maroon-bay then paler; g. narrow, adnato-decur. connected by numerous veins; s. tinged brown, squamulose, ring persistent, whitish.

sphaleromorpha, Bull. P. 4—7 cm. yellowish, even, soon expanded; g. rather broad, slightly decur. dry, yellowish then tawny; s. 5—8 cm. silky, pale, base thickened, ring distant, membranous; sp. 10 × 7.

[**gibberosa**, Fr. P. exp. dry, tan, umbo darker; g. quite free, closely crowded; s. slender, equal, white, ring torn.

B. Truncigeni. *Growing on wood, or epiphytic; often clustered.*

* *Pileus naked, not scaly but usually rivulose; gills pallid then rufous or fuscous.*

radicosa, Bull. Smell strong. P. 4—9 cm. equal, obtuse, even, glabrous, spotted, pale greyish tan; g. free, ventricose; s. 8—14 cm. solid, rooting, mealy above, squarrosely scaly below ring; sp. 9 × 4·5.

pudica, Fr. P. 3—7 cm. exp. even, dry, glabrous, whitish or tinged tawny; s. 3—5 cm. solid, even, whitish, ring spreading, persistent; sp. 6—7 × 3·5.

leochroma, Cke. P. 3—6 cm. exp. glabrous, tawny; g. adnate; s. 6—9 cm. nearly equal, solid, whitish, ring sup. tawny; sp. — .

[**radicellata**, Gill. P. ovoid then convex, striate, deep yellow-ochre; g. numerous, slightly adnexed, colour of p.; s. white, ring fugacious, long rooting.

capistrata, Cke. P. 3—5 cm. edge incurved, slightly striate, pale dingy yellow, rather viscid; g. subdecur.; s. 6—9 cm. equal, squamulose, whitish, ring sup. spreading; sp. — .

[**cylindracea**, D. C. P. convex-gibbous, even, glabrous, rather

viscid, dingy yellow, disc darker; g. adnexed, crowded, whitish then rusty; s. equal, rigid, subsquamulose, whitish, ring persistent apical, white; sp. 8 × 5.

aegerita, Fr. P. 4—9 cm. exp. rivulose, rugulose, tawny, edge pale; g. adnate, pallid then fuscous; s. 8—14 cm. equal, silky-white, ring sup. tumid; sp. 10 × 5.

[**Brigantii**, Fr. P. convex, white, reticulately sulcate then cracked into wart-like areolae, polygonal, apex truncate and fuscous; g. with decur. tooth; s. solid, equal, white with bay scales, ring apical subobsolete.

luxurians, Fr. P. 3—5 cm. convex-gibbous then exp. unequal, silky then squamulose, pale then rufo-fuscous; g. decur. greyish flesh-colour then fuscous; s. 3—5 cm. white then tawny, solid, rigid, floccose, ring apical, imperfect; sp. 10 × 4.

** *Pileus scaly, not hygr., gills becoming discoloured.*

† *Gills pallid then fuscous, olive, clay-coloured, not pure rusty.*

destruens, Brig. P. unequal, yellowish white, with paler large woolly floccose scales when dry; g. striato-decur. crenulate, broad, umber at last; s. solid, narrowed upwards, white-scaly, base swollen and rooting, ring fugacious; sp. 8—9 × 5—6.

Parasitic on living trees.

comosa, Fr. P. 7—14 cm. convex, viscid, tawny with whitish deciduous scales; g. subdecur. white then brownish tan; s. 7—9 cm. solid, rather bulbous, white, ring floccose, soon disappearing; sp. 12 × 6. (7·5—8·5 × 5—6 Sacc.)

[**magna**, Schulz. P. convex-umb. wood-yellow, with broad scattered adpressed scales; g. sinuate, yellow then umber; s. cylindrical, thick, squarrosely scaly, yellowish; sp. 8—11 × 4—6.

heteroclita, Fr. P. 6—14 cm. exp. very obtuse, subexcentric, whitish or yellowish, with scattered scales; g. very broad; s. 6—9 cm. solid, hard, bulbous, rooting, whitish, fibrillose, veil apical; sp. 8—10 × 5—6.

[**cerifera**, Karst. P. convex, even, upper stratum thick, waxy-gelatinous, glabrous, yellow, edge white-squamulose at first; g. crowded, broad, pallid; s. central, solid, equal, curved, rooting, hard, white-squamulose, whitish; sp. 8—10 × 6—7.

aurivella, Batsch. P. 7—14 cm. campan. convex, gibbous, tawny yellow, with darker scales, rather viscid; g. sinuato-adfixed; s. 8—14 cm. curved, with rusty adpressed squamules, ring rather distant; sp. 5 × 2·5. (8—9 × 4—5 Sacc.)

var. *filamentosa*, Schaeff. P. thinner, scales adnate, concentric, ring floccoso-radiate.

squarrosa, Müll. Smell strong. P. 5—9 cm. campan. convex,

exp. dry, rusty saffron, with darker concentric, squarrose, revolute scales; g. narrow, pallid olive then rusty; s. 6—11 cm. squarrosely scaly up to ring; sp. 8 × 4.

var. *Mülleri*, Fr. P. obtuse, pallid, adpressedly scaly, moist; g. fuscescent.

var. *reflexa*, Schaeff. P. thin, cuspidately umbonate, scaly; s. partly hollow, long, equal.

var. *verruculosa*, Lasch. P. compact, obtuse, yellow, papillate scales crowded, cinnamon; s. villosely squamulose.

[**humicola**, Quel. P. campan. convex, pale yellow, spotted; g. yellow; s. slender, fistulose, yellowish, spotted; sp. 11—12 long.

Probably a var. of *Pholiota squarrosa*.

subsquarrosa, Fr. P. 3—5 cm. convex, viscid, rusty brown with darker adpressed floccose scales; g. almost free, crowded, yellow then dingy tan; s. 5—8 cm. rusty yellow, with darker scales up to zone of ring; sp. — .

Differs from *P. squarrosa* in nearly free g.

[**djakovensis**, Schulz. P. pulvinate-umb. fleshy, edge for a long time bent down, golden, darker and adpressed scaly at disc, very viscid in rain; g. crowded, free, tan then purple-brown, edge entire; s. somewhat rooting, ascending, subbulbous, scaly up to ring, colour of p.; sp. 4—5 long.

[**fusca**, Q. P. 5—8 cm. convex, umb. viscid, brown with buff flecks near the edge; g. pale then lilac, at length brown; s. fibrous-fleshy, curved, subbulbous, yellowish-white, apex pulverulent, covered with fine flecks below the floccose annular zone; sp. 13 long.

†† *Gills yellow then pure rusty or tawny.*

spectabilis, Fr. P. 7—12 cm. compact, exp. dry, bright tawny orange then paler, broken up into fibrous scales; g. adnato-decur. crowded, narrow, yellow then rusty; s. 6—9 cm. solid, ventricose, rooting, ring inf.; sp. 9 × 4.

A destructive parasite on timber trees.

[**villosa**, Fr. P. exp. dry, everywhere floccosely villose, yellow tawny; g. narrow, yellow; s. elongated, stout, fibrillose, base thickened, yellow, ring narrow, entire.

adiposa, Fr. P. 4—9 cm. exp. yellow, glutinous, with darker, concentric, deciduous scales; g. adnate, broad; s. 7—14 cm. subbulbous, yellow, with darker glutinous squamules; sp. 7 × 3—4.

An injurious parasite to beech and ash.

lucifera, Fr. P. 2—4 cm. exp. then umb. viscid, yellow with darker adpr. deciduous scales; g. crenulate, narrow; s. 3—5 cm. equal, rather squamulose, base rusty, ring inf.; sp. 8—10 × 5—6.

[**violacea**, Vogl. P. convex, viscid, violet, disc darkest; g. arcuato-decur. brownish, edge eroded; s. dark violet, ring distant, violet.

flammans, Fr. P. 2—5 cm. exp. subumb. dry, tawny with super-

ficial sulphur squamules; g. crowded, entire, yellow; s. 5—7 cm. equal, rather wavy, squarrosely scaly up to ring; sp. 8×4. (4×2, Sacc.)

Junonia, Fr. P. 4—7 cm. exp. obtuse, dry, glabrous, yellow or tawny yellow; g. yellow then tawny; s. 5—9 cm. solid, equal, incurved, scurfy above entire ring; sp. 7—9×4·5—5.

tuberculosa, Schaeff. P. 3—5 cm. exp. dry, tawny yellow, broken up into adpressed innate squamules; g. broad, serrulate; s. 3—4 cm. incurved, bulbous, ring deciduous; sp. 7×4.

curvipoda, A. and S. P. 3—5 cm. exp. tawny yellow, torn into floccose adpressed scales; g. adnate, broad; s. 3—5 cm. thin, incurved, fibrillose, ring floccosely radiating, yellow; sp. 6—7×3—4.

[**Kolaënsis**, Karst. P. convex-exp. yellow, covered with rusty or cinnamon indumentum; g. at first yellowish; s. incurved, short, rusty and fibrillosely scaly below.

muricata, Fr. P. exp. obtuse, umbil. dry, yellow with tawny fasciculate flocci forming a muricate or granular covering; g. broad, yellow; s. thin, squamulose below the fugacious ring.

[**tersa**, Fr. P. exp. adpressedly squamulose, entirely yellow; g. free; s. elongated, equal, rusty below.

[**trichocephala**, Trog. P. campan. exp. obtuse, with shining straw-coloured hair-like squamules; g. free, distant, white then rusty; s. solid, base thickened, glabrous.

cruentata, Cke. and Sm. P. 4—5 cm. exp. dry, yellow, breaking up into darker adpressed scales, edge incurved; g. yellow then tan; s. curved, colour of p. 3—5 cm. curved, base dark red brown, rooting, ring superior. Flesh red; sp. — .

*** *Gills cinnamon* (not yellow at first).

paxillus, Fr. Entirely cinnamon. P. 7—12 cm. convexo-gibbous then exp. even, moist, rather wavy; g. decur. broad; s. 8—14 cm. solid, elongated, stout, ring narrow, spreading; sp. — .

dissimulans, B. and Br. P. 2—3 cm. exp. edge involute, often gibbous or obtusely umb. hygr. slightly viscid, lurid then pale; g. sinuately adnate; s. 3—4 cm. thickened downwards, white, ring superior; sp. 7×4.

confragosa, Fr. P. 3—4 cm. exp. hygr. floccosely-scurfy, edge striate, rufous cinnamon then tawny; g. adnate, closely crowded; s. 4—5 cm. fistulose, equal, fibrillose below spreading ring; sp. 8×4.

[**sublutea**, Fl. Dan. P. exp. umb. squamulose, moist, edge striate, yellow; g. decur.; s. stuffed, glabrous, yellow, ring spreading.

phalerata, Fr. P. exp. glabrous but with superficial deciduous pale scales, yellow; g. adnato-decur.; s. fasciculately pilose, adpressedly flocculose above distant ring.

mutabilis, Schaeff. P. 2·5—9 cm. exp. subumb. glabrous, deep cinnamon then pale; g. adnato-decur. crowded; s. 3—9 cm. rigid, squarrosely scaly up to ring, base dark rusty; sp. 9—11×5—6.

[**gregaria**, Wettst. P. convex then exp. glabrous, edge thin, striate; sometimes becoming raised, pale fuscous centre darker; g. adnato-decur. broad, crowded, pallid then cinnamon; s. erect or curved, fistulose, fibrous, tough, slender, squarrosely squamulose up to spreading rusty ring, rusty below and pale above ring; sp. 6—8 × 4.

marginata, Batsch. P. 2—3 cm. exp. glabrous, hygr. edge striate, honey-colour then pale; g. adnate, crowded; s. 3—5 cm. not scaly, ring fugacious, dark base with white velvety down; sp. 7—8 × 4.

P. mutabilis differs in scaly s.

sororia, Karst. P. convex, exp. slightly striate, squamulose, tawny-cinnamon; g. sinuato-adnate, crowded; s. equal, wavy, colour of p. then paler, variegated with white squamules, apex scurfy; sp. 6—7 × 3—4.

Close to *Pholiota marginata.*

mustelina, Fr. P. 1—1·5 cm. campan.-convex, even, glabrous, dry, yellow then ochre; g. adnate, tawny cinnamon; s. 2—2·5 cm. even, pallid, white-mealy above superior ring, base thickened, with white down; sp. — .

unicolor, Fl. Dan. P. 1—1·5 cm. campan.-convex, subumb. hygr. bay then ochre; g. subtriangular; s. 3—4 cm. colour of p., ring slender; sp. 9—10 × 5.

[**mellea**, Karst. P. convex exp. even, glabrous, honey-colour; g. crowded, fuscescent; s. wavy, glabrous, whitish, ring persistent; sp. 8—12 × 6—9.

Differs from *Pholiota unicolor* in colour.

C. Muscigeni. *Resembling a Galera with a ring; hygr.*

pumila, Fr. P. 1—1·5 cm. hemispher. even, ochre; g. adnate, crowded, broad, yellow then pallid; s. 3—4 cm. slender, ring fugacious, forming a zone; sp. 8—10 × 5—6.

[**muscigena**, Q. Honey yellow then pale ochre. P. campan. umb. thin, striate; g. triquetrous, thin, pale then ochre; s. slender, fistulose, fibrillose, slightly striate, cottony at the base; ring membranous, narrow, saffron-ochre; sp. 8—9 long.

mycenoides, Fr. P. 1—2 cm. campan.-convex, everywhere striate, hygr. rusty then tawny or pallid; g. adnate; s. 3—4 cm. rusty, glabrous, ring white; sp. 8—10 × 5—6.

rufidula, Kalchbr. P. exp. depr. not striate, rather rufous brick-red then pale, white-flocculose at edge; g. adnate, branched; s. watery rufescent, white-fibrillose, ring superior; sp. 8—10 × 4—6.

PLUTEOLUS, Fr.

reticulatus, Fr. P. 3—4 cm. campan. exp. viscid, reticulated with raised anastomosing wrinkles, pale violet; g. free, rusty saffron; s. 3—5 cm. fragile, fibrillose; sp. 7 × 4.

[**dictyotus**, Kalchbr. Entirely pale ochraceous. P. campan. exp. umb. dry, with anastomosing raised veins; g. free; s. fragile, even, glabrous.

Differs from *P. reticulatus* in colour, and in growing on the ground.

aleuriatus, Fr. P. 1—2 cm. conical then convexo-plane, viscid, striate, grey, livid, rosy, &c.; g. free, ventricose, saffron-ochre; s. thin, pulvernlent, subincurved, white; sp. — .

BOLBITIUS, Fr.

grandiusculus, Cke. and Mass. P. 2·5—5 cm. thin, campan. exp. slightly striate, pale yellow, disc rufous; g. free, rusty ochre; s. 6—9 cm. narrowed upwards, hollow, white; sp. 15 × 5—6.

vitellinus, Fr. P. 3—5 cm. ovate then exp. viscid, egg-yellow, even then sulcate at the edge; g. adnexed, ochre then tan; s. 6—7 cm. equal, white, squamulose, hollow; g. 10 × 6.

Differs from *B. flavidus* in white stem, and from *B. Boltoni* in clear yellow p. not depressed at disc.

Boltoni, Fr. P. 3—4 cm. viscid, even, edge becoming sulcate, yellow then pale, disc darker and subdepr.; g. subadnate, yellow then livid fuscous; s. 4—5 cm. narrowed upwards, yellowish, at first flocculose; sp. 14 × 8.

flavidus, Bolton. P. 2—4 cm. glutinous, conical then exp. disc a little elevated, pale yellow, edge striate; g. almost free, yellow then brownish; s. 4—6 cm. slightly tapering, yellow; sp. 10 × 6.

fragilis, Fr. P. 1·5—2·5 cm. viscid, pellucid, edge striate, subumb. yellow then pale; g. yellowish then pale cinnamon; s. 4—7 cm. narrowed upwards, naked, glabrous, yellow; sp. 7 × 3·5. (14—15 × 8—9 Sacc.)

[**bulbillosus**, Fr. P. convex-campan. exp. not striate, pale yellowish fuscous; g. free, ventricose, rusty; s. attenuated upwards from a somewhat marginate bulb, whitish yellow, glabrous; sp. 10—14 × 8.

affinis, Mass. (sp. nov.) P. 1—2 cm. campan. then exp. umb. glabrous, dry, edge striate, yellowish tawny like the narrow, adnexed g.; s. 4—7 cm. attenuated upwards from a marginate bulb, white, shining; sp. 8 × 6.

Differs from *B. bulbillosus* in the pure white s., and umbonate, striate, tawny yellow p. which is whitish when dry.

[**conocephalus**, Bull. P. 1—2 cm. conico-campan. fragile, slightly striate, viscid at the apex, creamy yellow; g. free, ventricose, becoming ochre; s. slender, elongated, pruinose at the apex, white; sp. 10 long.

titubans, Bull. P. 2—3 cm. ovoid-campan. thin, glabrous, diaphanous, yellow, becoming striate, plaited and greyish at the edge; g. free, yellow then reddish or ochre; s. hollow, slender, very fragile, 3—5 cm. mealy, white, shining; sp. 12—14 × 8.

apicalis, W. G. Sm. P. 2—3 cm. high, conical, not exp. striate and brown up to ochre disc; g. free, rusty; s. 3 cm. base thickened, striate, white; sp. 9 × 6—7.

rivulosus, B. and Br. P. 2—3 cm. campan. striate, rivulose, dingy tan; g. cinnamon; s. 5—7 cm. narrowed upwards, smooth, white; sp. 10—12 × 6—7.

niveus, Mass. P. 2—3 cm. campan. obtusely umb. smooth, rather viscid, edge striate, pure white; g. free, salmon-colour; s. 7—9 cm. clavato-bulbous and gradually narrowed upwards; sp. salmon-colour, 18 × 9—10.

tener, Berk. P. 1—2 cm. long, not exp. even, smooth, moist, yellowish-white; g. nearly free, salmon-colour; s. 3—6 cm. clavato-bulbous, white; sp. salmon-colour, 15—16 × 8—10.

luteolus, Lasch. Very thin, p. campan. plicato-sulcate, yellow; g. free, yellow then livid; s. filiform, glabrous, pallid.

pusillus, Borsz. Very thin, campan. sulcato-plicate above middle, viscid; g. free, cinnamon; s. pale yellow, white-squamulose.

puriflus, Lasch. P. very thin, exp. flocculose, sulcate, yellow; g. free, narrow, subochraceous; s. narrowed, mealy, yellowish.

[**Ozonii**, Schulz. P. thin, conico-campan. exp. disc even, cinnamon or fuscous, rest pale ochre and densely striate; g. adnexed, closely crowded, pale then colour of p.; s. 2—6 springing from a common fleshy mass, or solitary and subbulbous, white; sp. 7—11 × 5.

INOCYBE, Fr.

A. Squarrosi. *Pileus at first squarrose, stem scaly, both somewhat fuscous.*

hystrix, Fr. P. 4—7 cm. convexo-plane, mouse-colour, with revolute, squarrose scales; g. grey then fuscous; s. 4—7 cm. thickened upwards, with rings of reflexed scales, pale above ring; sp. 10 × 5.

relicina, Fr. P. 2—4 cm. conico-exp. with squarrose tomentose scales, sooty; g. yellow then olive; s. 4—5 cm. solid, equal, floccosely scaly; sp. — .

calamistrata, Fr. Smell strong. P. 2—4 cm. campan. obtuse, squarrose with rigid recurved scales, brown; g. white then rusty; s. 4—5 cm. solid, rigid, base blue, squarrosely scaly everywhere, fuscous; sp. 10—11 × 5. Flesh reddish.

hirsuta, Lasch. P. 1·5—2·5 cm. conico-campan. acute, squarrose with scales formed of fascicles of hairs, fuscous-ochre, disc sometimes greenish; g. narrow, pallid then fuscous; s. 4—7 cm. solid, slender, floccosely scaly above, base greenish; sp. — .

lanuginosa, Bull. P. 1—2 cm. hemispher. exp. obtuse, floccosely scaly, those of disc erect, umber then yellowish; g. toothed, pallid then clay-colour; s. 2—3 cm. thin fibrillosely scaly, apex with white meal; sp. rough, 8 or 10; 12 × 5 (Cke.)

squarrosula, Karst. (=*Clypeus*, Karst.) P. convex then plane, obtuse, fibrillose, fuscescent, disc squarrosely squamulose, fuscous; g. crowded, white-crenulate; s. equal, brownish-squamulose; sp. 10 × 7—8.

dulcamara, A. and S. P. 3—5 cm. convex, umb. pilosely-scaly, fuscous-olive; g. pallid then olive; s. 2—3 cm. fibrillosely squamulose from the veil, apex mealy; sp. 8—10 × 5.

plumosa, Bolton. P. 2—4 cm. convexo-plane, disc with erect pilose fascicles, edge fibrillose, mouse-grey; g. quite entire, whitish then smoky; s. 3—6 cm. slender, wavy, floccosely scaly, apex-naked; sp. 8—9 × 4—5.

cincinnata, Fr. P. 1·5—2·5 cm. convexo-plane, squarrosely squamose, somewhat fuscous; g. fuscous violet; s. 2—3 cm. solid, slender, scaly; sp. 7—8. (8—10 × 5 Sacc.)

haemacta, B. and Cke. P. 2—3 cm. campan. obtuse, floccosely fibrillose with dark fibrils, disc scaly and darker; g. dingy tan; s. 4—5 cm. scarcely fibrillose, whitish above, tinged verdegris at base; sp. 8 × 4—5.

Flesh turning blood-red when bruised.

leucocephala, Boud. P. white, convex, entirely covered with erect scales; g. free, broad, fawn; s. short, white, coarsely fibrillose throughout; sp. rough, 9—11 × 6—8.

B. Laceri. *Pileus torn into scales or fibrils (not cracking); stem coloured, paler than pileus, fibrillose.*

pyriodora, Pers. Smell pleasant. P. 4—7 cm. umb. adpressedly fibroso-scaly, fuscous ochre then pale; g. emarginate, rather distant; s. 6—10 cm. solid, equal, fibrillose, pale, apex pruinose; sp. 10 × 6. Flesh with red tinge.

[**corydalina**, Q. Strong-scented. P. whitish, umbo bluish-green; g. narrow, white then fuscous; stem white pruinose; sp. 10 long.

var. *roseolus*, Pat. Larger than type. P. entirely bluish green, edge white-append.; flesh tinged rosy.

[**violascens**, Q. P. splitting, fawn, umbo lilac; g. lilac; s. hollow, white, apex striate, lilac, ring floccose, white; sp. 12—15 long.

incarnata, Bres. P. 4—7 cm. campan. convex, broadly umb. fibrillose then squamulose, edge fimbriate, yellowish then tinged red; g. sinuate, edge fimbriate becoming spotted or tinged red; s. 4—6 cm. fibrillose, rosy, apex white and mealy; sp. 10 × 6.

scaber, Fr. P. 3—4 cm. conico-convex, obtusely gibbous, with scattered adpressed fibrillose scales, smoky then pallid; g. crowded, somewhat smoky; s. 2—3 cm. thick, equal, silky fibrillose; sp. 11 × 5, Cke.; 7 × 3—4, Pat.

var. *firma*, Fr. P. fuscous tan with fuscous scales; s. velvety.

maritima, Fr. P. 2—3 cm. convex, exp. flocculosely fibrillose, hygr. umber then grey; g. broad, grey then rusty; s. 2—3 cm. solid, floccosely fibrillose, smoky; sp. rough, 9—10.

violaceafusca, Cke. and Mass. P. 2—5 cm. convex then exp. obtusely umb. concentrically scaly, fibrillose, dry, umber, edge torn; g. violet then umber, edge paler, serrulate; s. 4—6 cm. equal, smooth, violet above; sp. 7—8 × 4.

lacera, Fr. P. 2—4 cm. convex, exp. obtusely umb. fibrillosely scaly, mouse-grey then pale; g. broad pale rufescent then mouse-grey; s. 3—4 cm. fuscous-fibrillose, apex naked, red inside; sp. 12 × 6.

Distinguished from *I. scabra* and *I. mutica* by being reddish inside of s.

[**abjecta**, Karst. P. convex exp. even, fuscescent, white-fibrous, disc fibrously scaly; g. adnate, broad, ventricose in front, cinnamon tinged olive; s. pallid, white-floccose, apex white-pruinose; sp. 10—13 × 5—7.

[**trivialis**, Karst. P. conico-campan. exp. usually depr. obtusely umb. rimose, disc sometimes scaly pallid or mouse-colour changing to bay; g. crowded; s. solid, equal, subrufescent, at length dusky outside and inside, not bulbous; sp. 10—12 × 4—5.

[**rhodiola**, Bresad. P. conico-campan. exp. umb. fibrillosely scaly then almost glabrous, rufous-umber then pale; g. becoming rusty-olive, edge white-pruinose, becoming rufous spotted; s. fibrillose, subequal, apex glabrous tinged yellow, reddish downwards, spotted reddish when bruised; flesh whitish, base of s. red; sp. 10—12 × 6—7.

fasciata, Cke. and Mass. Caespitose. P. 4—7 cm. campan.-convex, pale tan disc rufous, silky, covered with small, dark, squarrose scales; g. pallid; s. 4—7 cm. fibrillose, reddish outside and inside at base, rest pallid, solid; sp. rough, 10 × 6.

[**rufoalba**, Pat. and Doass. P. convex, mammillate, brown, silky white tomentum everywhere except umbo; g. nearly free, rusty brown; s. equal, pubescent, rusty, not bulbous; sp. rough, 9—10 × 4—5.

flocculosa, Berk. Smell strong. P. 1·5—2·5 cm. umb. subcampan. silkily squamulose, tawny brown; g. fawn then rusty; s. 2—3 cm. fibrillose, reddish, pulverulent above; sp. 10 × 5—6.

Bongardii, Weinm. Smell pleasant, like bergamot. P. 2—5 cm. campan. obtuse, disc scaly, fibrillose towards edge, fuscous then pale; g. broad, pale reddish then cinnamon; s. 4—9 cm. solid, rigid, pallid rufous, silky and red below, apex with white meal; sp. 10—12 × 6.

[**Merletii**, Q. P. convex, hoary, virgate with brownish fibrils; g. milky white then brownish fawn; s. whitish, stuffed, fibrillosely striate, ring floccose, white; sp. 11—14 long.

[**capucina**, Fr. P. conico-campan. acute, everywhere fibrillosely scaly, dusky fuscous, edge paler; g. adnate, crowded, fuscous; s. solid, short, fibrillose, fuscous; sp. rough, 10.

[**cucullata**, C. Mart. Smell like camphor. P. variable in form, campan. campan.-convex, sometimes irreg. scaly, tawny, disc darker; g. broad, edge white, serrulate; s. subequal, hollow, glabrous, paler than p.; sp. smooth.

[**asinina**, Kalchbr. P. convex then plane, rather gibbous, ad-

pressedly fibrillose, hoary then rufescent tan; g. greyish yellow then cinnamon; s. solid, brownish tan, loosely fibrillose and cingulate from the superior veil.

[**connexifolia**, Gill. Smell like ripe fruit. P. conical then exp. umb. with adpressed fibrillose scales especially at centre; g. arcuate, connected by veins, whitish, olive-rufous, finally cinnamon; s. fibrously squamulose, white then tinged pink, white above; sp. smooth. Flesh reddish when cut.

mutica, Fr. P. 2—4 cm. convex then plane, very obtuse then depr. squamulose, whitish, fuscous-fibrillose; g. adnate, crowded; s. hollow, pale straw-colour then fuscescent; sp. 8 × 5. (6 × 4 Sacc.)

carpta, Fr. P. 2—3 cm. convex exp. depr. dingy fuscous, with woolly filaments; g. broad, fuscous brown; s. 2—4 cm. fibrillosely woolly, hollow, narrowed downwards; sp. 8—10 × 5.

[**tenebrosa**, Q. P. campan. cracked into squamules, umber; s. fibrillosely striate, blackish olive, apex whitish; sp. 7—8 long.

deglubens, Fr. P. 2—3 cm. convexo-plane, umb. torn into adpressed fibrils, disc rather scaly, rufous bay then yellowish; g. dingy then cinnamon; s. 4—6 cm. solid, pallid, apex with dark scurf; sp. 10 × 6.

Differs from *I. lacera* in dark scurfy apex of s.

obscura, Pers. P. 1·5—2·5 cm. campan. then plane, umb. longitudinally fibrillose, disc scaly, blue then fuscous; g. olive then brown; s. 3—4 cm. fibrillose, brownish violet; sp. 9—10 × 5—6.

var. *rufus*, Pat. P. brownish rufous, g. ventricose, violet.

[**Gaillardii**, Gill. P. convex then exp. umbo and around scurfy, margin torn, reddish rusty; g. crowded, free, broad, colour of p.; s. slender, paler than p.; sp. globose with long slender spines.

[**calospora**, Q. P. minutely squamulose, brownish; g. milk-white; s. slender, slightly bulbous, pruinose, whitish rufous; sp. glob. strongly aculeate, 10.

[**hirtella**, Bres. P. conico-campan. exp. umb. edge soon splitting, yellowish straw-colour, densely covered with darker pilose scales; g. adnate, whitish then fuscescent, edge white-mealy; s. white becoming tinged straw-colour with a subterranean subbulbous base; sp. 10—12 × 6.

Allied to *I. calospora*, Q.

echinata, Roth. P. 2—5 cm. campan. then exp. pulverulent then scaly, silky, dingy brownish yellow; g. nearly or quite free, deep rose to blood-red; s. 3—5 cm. floccosely pulverulent up to imperfect ring, dull red, hollow; sp. 5 × 3.

C. Rimosi. *Pileus longitudinally fibrillose, soon cracked, often adpressedly scaly; stem whitish, paler than pileus, fibrillose.*

schista, Cke. and Sm. P. 4—7 cm. campan. broadly subumb. cracking longitudinally, fibrillose, bay brown; g. adnate, rufous,

edge pale, serrate; s. 6—7 cm. stout, equal, twisted, solid, paler than p.; sp. — .

fibrosa, Sow. P. 7—9 cm. campan. umbo broad, silky, even then cracked, edge wavy, pallid; g. free, crowded, dingy ochre, edge uneven; s. 4—12 cm. solid, narrowed upwards, striate, flocculosely scaly above; sp. slightly rough, 12—14 × 6.

I. perlata differs in darker p. and smooth sp.

phaeocephala, Bull. P. 3—5 cm. conico-campan. umb. wavy, squamulose, bay then sooty; g. free, arcuate, umber; s. 5—7 cm. solid, somewhat bulbous; colour of p. above, below white and downy; sp. 6 × 4.

[**jurana**, Pat. P. umb. cracked and torn, fibrillose, rather squamulose towards the edge, reddish violet, disc deep violet; g. broad, ochraceous; s. tall, fibrous, apex pruinose, violet downwards; sp. 10 × 6.

fastigiata, Schaeff. P. 3—5 cm. thin, conico-campan. longitudinally fibrous and cracked, edge often lobed, yellow brown; g. free, fuscous-olive; s. 6—9 cm. solid, stout, rather twisted, silky-fibrous; sp. rough, 8—10 × 6—8.

I. pyriodora differs in smell and reddish flesh.

[**praetervisa**, Q. P. campan. fibrillosely virgate, fawn; g. milk-white then fawn; s. pubescent, pale straw-colour; sp. warted, 10—11 × 5—6.

[**Godeyi**, Gillet. Smell strong, unpleasant. P. campan. edge slightly incurved, scaly and fibrillosely rimose, dingy yellow then tinged reddish-ochre as is every part of fungus more or less; g. free, pale olive; s. rather floccose at apex, colour of p. flesh white, tinging red; sp. 6—8 × 3—4.

[**Cookei**, Bres. P. conico-campan. exp. umb. edge becoming upturned and split, fibrillose and silkily rimose, centre glabrous, straw-colour then lurid yellowish; g. crowded, attenuato-adnexed, greyish white then yellowish cinnamon; s. colour of p. silky fibrillose, base marginately subbulbous, apex naked; sp. 8—10 × 5.

Allied to *I. fastigiata.*

hiulca, Fr. P. 2—4 cm. conico-exp. umb. fibrillose, cracked into scales, fuscous or olive; g. broad, becoming olive; s. 4—7 cm. rigid, silky fibrillose, apex and flesh pinkish white, with white meal; sp. 8—10 × 5.

Curreyi, Berk. P. 3—5 cm. convex then exp. longitudinally fibrillose, squamulose at disc rather cracked, pale yellow brown; g. yellowish then tinged olive; s. 4—7 cm. rather fibrillose, colour of p. solid, flesh dingy; sp. 11 × 6.

Differs from *I. pyriodora* in absence of smell, and from *I. fastigiata* in smooth sp.

perlata, Cke. P. 6—9 cm. convex then exp. broadly umb. longitudinally fibrous with darker fibrils, fuscous, edge paler, incurved, disc very dark; g. adnexed, pale umber; s. 6—9 cm. sometimes twisted, striate, pallid; sp. 8—9 × 6.

Differs from *I. schista* in umber gills.

[**maculata**, Boud. P. campan. then exp. umb. silky-fibrillose, cracked, dingy fawn-colour, and with concentric white adpr. scales; g. almost free, fawn with olive tinge; s. fibrillose, paler than p. apex scurfy; 10—13 × 5—6.

Differs from *I. rimosa* in the white scales on p.

rimosa, Bull. P. 3—5 cm. campan. silky-fibrous, longitudinally cracked when exp. yellow brown; g. free; s. 4—7 cm. solid, firm, almost glabrous; sp. smooth, 10—11 × 6.

I. eutheles differs in being umbonate, and *I. pyriodora* in strong smell.

[**albipes**, Gill. P. exp. plane, mammilate, fibrillosely rivulose, edge wavy, dingy yellow disc darker; g. free, crowded; s. entirely white, squamulose; sp. rough.

asterospora, Q. P. 3—5 cm. campan. subumb. silkily fibrous, longitudinally cracked when dry, yellow brown, or umber; g. almost free; s. 4—7 cm. slightly submarginately subbulbous, solid, pallid or pinkish tinge; sp. subgl. warted, 10—11. (7—10 × 5—8 Sacc.)

Differs from *I. rimosa* in spores.

[**proximella**, Karst. P. exp. umb. rimose and torn into fibres, pallid, umb. darker; g. adnate, crowded, ventricose; s. subfibrillose, pallid, flesh white, no trace of bulb; sp. warted, 8—9 × 5—6.

Differs from *Ino. asterospora* in absence of bulb, curved fibrillose stem, etc.

[**umbrina**, Bres. P. campan.-convex, plane, umb. chestnut brown, rather viscid, woolly-fibrillose at length rimose, disc sometimes slightly warted; g. crowded, lurid citrin then reddish cinnamon, edge darker; s. fibrillose, colour of p. subbulbous; sp. substellate, 7—8 × 5—6.

Close to *I. asterospora*, Q.

eutheles, B. and Br. P. 3—5 cm. campan. exp. strongly umb. undulate, shining, silky, squamulose, fawn; g. broadly adnate, pallid, edge whitish, toothed; s. 4—7 cm. equal, striate, pallid; sp. 10—11 × 5.

Differs from *I. fastigiata* in adnate gills, and from *I. curreyi* in strong umbo and adnate g.

margaritispora, Berk. P. 3—5 cm. campan. then exp. wavy, broadly umb. silky, with adpressed fibrillose scales, fawn; g. adnexed, pallid; s. 6—9 cm. equal, fibrillose, pallid; sp. warted, 8.

Differs from *I. eutheles* in globose, warted s., and from *I. asterospora* in squamulose p.

destricta, Fr. P. 3—6 cm. campan.-exp. umb. cracked, fibrillose, then torn into scales, pallid then rufescent; g. uncinato-adnate; s. 4—5 cm. solid, glabrous, fibrillose, striate, reddish-white; sp. 8 × 4.

Differs from *I. rimosa* by adnexed g. and reddish s. *I. asterospora* differs in warted globose sp.

perbrevis, Weinm. P. 2—3 cm. convex, obtusely umb. fibrously scaly, edge rather striate at length splitting, fuscous then yellowish rufous; g. uncinato-adnexed; s. 2—2·5 cm. pallid, white-fibrillose, base rather narrowed; sp. 10—12 × 5.

[**putilla**, Bres. P. conico-campan. then exp. umb. silky-fibrillose, surface at length cracked and torn, tan or greyish-brown, or fuscous then pale, edge persistently lurid whitish; g. sinuato-adnate, white then tan, edge crenulate; s. very faintly tinged rose, white-fibrillose then glabrous, apex white-scurfy, base rather narrowed; sp. angular, 8—10 × 6—7.

descissa, Fr. P. 1·5—2 cm. conico-campan. fibrillose, splitting open, whitish fuscescent; g. almost free, crowded, whitish then fuscescent; s. 3—4 cm. partly hollow, equal, undulate, fibrillose, apex white-pulverulent; sp. 8 × 4—5.

Resembling *I. geophylla* but slenderer; s. white outside and inside.

var. *auricoma*, Batsch. Smaller. P. yellowish, edge striate; g. adfixed, ventricose white then fuscous.

[**grammata**, Q. P. campan. fibrous-striate, whitish then fawn; g. tawny; s. striate, tomentose, shining white then rosy; sp. rough, 10.

[**brunnea**, Q. P. umb. fibrillosely silky, chestnut; s. fibrilloso-striate, fuscous, apex white, pruinose; sp. 12 long.

[**grata**, Weinm. P. conico-campan. fibrillose, umbonate, cracked when exp. whitish- or yellowish-rufescent, scaly disc darker; g. crowded, olive then pallid fuscescent; s. shining, fibrillose, wavy, whitish rufescent.

Trinii, Weinm. Smell like clove-pinks. P. 1—2 cm. hemispher. obtuse, longitudinally rufescent-fibrillose, whitish-rufescent, tawny when dry; g. rounded, ventricose, cinnamon, edge white-floccose; s. 2—4 cm. equal, slender, loosely rufous-fibrillose, powdered with white; sp. rough, 9—10.

D. VELUTINI. *Pileus not rimose, cuticle of interwoven fibrils, almost smooth, or adpressedly scaly, disc even; stem polished, glabrous, whitish, apex mealy.*

sambucina, Fr. White, smell strong. P. 4—7 cm. firm, convex, exp. obtuse, silky fibrillose, even, sometimes tinged yellow; g. crowded, whitish; s. 3—4 cm. stout, solid, glabrous, striate, white; sp. 11—12 × 6.

caesariata, Fr. P. 1·5—3 cm. convex exp. gibbous, somewhat tawny, ochraceous-fibrillose or subsquamulose; g. entire, pale ochre; s. 3—6 cm. solid, equal, fibrillose, pale ochre; sp. 8 × 4. (10—12 × 5 Sacc.)

[**delecta**, Karst. (= *I. caesariata*, var. *fibrillosa*, Fr.). P. exp. even, fibrillosely scaly, dingy tawny- or rufous-honeycolour, paler when dry; g. at length fuscous, edge paler and floccoso-crenate; s. solid, dingy yellow or pallid, white-fibrillose; sp. — .

[**subgranulosa**, Karst. P. convex then exp. or slightly depr. obsoletely umb. even, pale ochre, disc more especially with minute erect dark squamules; g. adnate, greenish- then brownish-cinnamon; s. hollow, curved or wavy, paler than p.; sp. 7—9 × 4—5.

lucifuga, Fr. Smell strong. P. 2—3 cm. convex-plane, subumb. adpressedly fibrilloso-squamulose, fuscous or olive then pale; g. yellowish white then olive; s. 3 cm. solid, firm, equal, glabrous, apex rather pruinose; sp. 10 × 6.

[**decipiens**, Bres. P. exp. umb. floccosely silky, disc smooth then broken up into scales, cinnamon ochre; g. greyish white then lurid cinnamon; s. glabrous, apex slightly pruinose, rather striate, pallid; sp. rough, 11—14 × 6—8.

[**tomentella**, Fr. P. convex, obtuse, fibrillosely tomentose, brownish; g. subadnate; s. solid, equal, white, apex pruinose, with a cortinate median annular zone, otherwise glabrous.

sindonia, Fr. P. 3—5 cm. thin, conico-convex, obtusely gibbous, velvety-villose, dingy white or yellowish, edge appendiculate; g. lanceolate, whitish then fuscous; s. 4—7 cm. with a separate pith which disappears, then hollow, almost glabrous; sp. 7 × 4. (10 × 5 Sacc.)

Differs from *I. geophylla* in larger size and hollow s.

[**cortinata**, Roll. P. campan. then exp. strongly umb. whitish straw-colour, umb. darker, becoming rimose, white veil at margin; g. adnato-decur. dingy ochre, edge flocculose, paler; s. white, fibrilloso-striate, curved, ring median.

Perhaps a cortinate form of *I. sindonia*.

Clarkii, B. and Br. P. 2—3 cm. campan. obtuse, whitish, silky; g. adnexed, pallid, edge white; s. 3—5 cm. nearly equal, solid, white; sp. 8—10 × 6.

Differs from *I. sindonia* in solid s. and pale g.

geophylla, Fr. P. 1—2 cm. conical then exp. umb. even, silky-fibrillose, white or lilac; g. adnexed, crowded, dingy white then umber; s. 4—6 cm. equal, firm, apex with white meal, veil fibrillose; sp. 7—8 × 4.

I. scabella differs in brownish squamulose p.

var. *fulva*, Pat. P. rufous-ochre, edge paler; sp. 8—10 × 5.

var. *violacea*, Pat. P. violet; sp. 10 × 5.

[**commixta**, Bres. P. conico-campan. exp. umb. shining white or tinged grey; fibrillosely silky, edge often split, dry; g. closely crowded, free, white then greyish cinnamon; s. solid, white, equal, apex scurfy, base minutely turbinately bulbous; sp. angular, 10 × 7.

Closely resembling *I. geophylla*, differing in base of s. and angular sp.

[**umbratica**, Q. Shining white. P. umb. silky-pruinose; g. white then rosy-fawn; s. flocculose; sp. rough, 8—10.

scabella, Fr. P. 2—3 cm. campan. then plane, dry, torn into squamulose fibrils, umbo obtuse, even, glabrous, rufescent or yellowish; g. adnexed, dingy; s. 3—4 cm. glabrous, rufescent or pallid, apex pruinose; sp. rough, 10 × 7.

[**debilipes**, Karst. P. conico-convex, exp. pallid fuscous then rather rusty, everywhere torn into scales which become stuck down, then rimose; g. adnexed, crowded, pallid rusty, edge fuscous-crenu-

late; s. wavy, pallid, spotted with minute fuscescent squamules; sp. 7—9 × 5—6.

[**confusa**, Karst. P. exp. umb. glabrous, cuticle cracked, fibrillose, rusty, tawny yellow or bay; g. crowded, yellowish then olive; s. solid, firm, nearly glabrous, pale; sp. 10—12 × 6.

[**inconcina**, Karst. P. exp. obtuse, even, glabrous, innately fibrillose, rusty then pale; g. sinuato-adnate, crowded, pale olive then rusty, edge paler and floccosely crenulate; s. equal, wavy, pallid, apex white-pruinose; sp. 8—13 × 5—6.

[**curvipes**, Karst. P. exp. obtuse, adpressedly fibrillose or squamulose, brownish; g. adnexed, crowded; s. curved, wavy or twisted, narrowed below, fibrillose, pallid; sp. rough, 9—15 × 5—7.

[**conformata**, Karst. P. exp. umb. slightly adpressedly floccosely squamulose, rusty or brownish then pale; g. adnexed, ventricose, pallid then brownish; s. equal, rather wavy, minutely fibrillosely flocculose; sp. 8—10 × 4—5.

[**pusio**, Karst. P. exp. umb. fibroso-rimose, pallid fuscous; g. adnexed with decur. tooth, tan; s. apex pruinose and at first violet, usually wavy; sp. 8—10 × 4—6.

[**flavella**, Karst. P. acutely conical then exp. acutely umb. innately fibrillosely rimose, glabrous, yellowish, rather shining; g. crowded, yellowish then olive, edge paler, floccosely crenulate; s. solid, equal, wavy, apex white-flocculose, yellowish white; sp. 12—14 × 4—6.

[**fulvella**, Bres. P. conico-campan. exp. umb. silky-flocculose, centre glabrous, olivaceous honey-colour then brownish olive, umbo darker; g. lilac then tan, edge fimbriate; s. lilac then rufescent, glabrous, wavy.

subrimosa, Mass. (*Clypeus subrimosus*, Karst.). P. 2—3 cm. conico-campan. umbo prominent, edge often wavy, even, glabrous, then longitudinally fibrillose and cracked, bay or rusty ochre; g. dingy tan; s. 4—5 cm. solid, equal, polished, with a minute marginate bulb, white, mealy; sp. 10—12, spiny.

mamillaris, Pass. P. convex, mammillate, squamulose; g. emarginato-adnexed; s. hollow, equal, flexuous; sp. smooth.

Renneyi, B. and Br. P. 1—2 cm. hemispher. slightly fibrillose, disc brown, rest fawn; g. rounded behind, dingy ochre; s. 3—4 cm. slightly narrowed downwards, fibrillose, solid, paler than p.; sp. rough, 12 × 7—8.

var *major*, B. and Br. Colour of type, but larger; g. broadly adnate.

E. Viscidi. *Pileus almost smooth, viscid.*

trechispora, Berk. P. convex then exp. umb. viscid, soon dry and silky, umbo brownish rest whitish; g. pinkish grey; s. 3—4 cm. equal, often rather wavy, whitish, mealy; sp. 7 × 5—6.

Differs from *I. geophylla* in dark umbo and rough sp.

[**viscosissima**, Fr. (=*I. umbonata*, *Q.*) P. convex acutely umb. umber-brown, dripping with gluten then silky; g. rounded and free, ventricose, rufescent; s. equal, glabrous, pallid; sp. — .

Allied to *I. trechispora*, differing in being very glutinous and in rounded free gills.

[**imbecilis**, Pass. P. glabrous, rather viscid, white then clay-colour; g. whitish then rusty-rose; s. solid, long, cylindrical, watery, with white meal above.

vatricosa, Fr. P. 1—1·5 cm. convex then plane, subumb. glabrous, viscid, silky at margin, whitish; g. white then fuscescent; s. 2—3 cm. fistulose, contorted, pulverulent; sp. — .

Habit of *I. geophylla* but smaller and viscid at first.

Whitei, B. and Br. P. 1·5—2·5 cm. convex, tawny, edge whitish, at length exp. and all tawny, fibrillose, rather viscid; g. white then pallid; s. 2—3 cm. slightly thickened at base, white then brownish; sp. 9 × 4.

tricholoma, A. and S. Whitish. P. 2—4 cm. plano-depr. rather viscid, with adpr. white fibrils, edge strigosely fringed; g. decur.; s. 3—4 cm. slender, squamulose above; sp. rough, 4.

strigiceps, Fr. P. convex-obtuse then exp. strigosely silky with long fibrils, rufescent, edge at first involute, strigosely ciliate; g. adnato-decur.; s. stuffed, downy, white.

var. *eriocephala*, Fr. P. yellowish-white, silky, with appendiculate white down at edge; g. adnate; s. fistulose, becoming compressed.

HEBELOMA, Fr.

A. INDUSIATI. *Veil evidently cortinate, hence the pileus is often superficially silky near the margin.*

mussivum, Fr. P. 5—10 cm. convex exp. obtuse, viscid, at length squamulose, yellow disc often brownish; g. emarginate, yellowish; s. 8—12 cm. solid, equal, entirely fibrillose, yellowish, apex rather pruinose; sp 12 × 6.

sinuosum, Fr. P. 7—14 cm. exp. wavy, viscid, even, almost glabrous, yellowish or pale brick-red then pale; g. emarginato-free, broad, pallid then rusty; s. 8—13 cm. hollow, stout, fibrous, soft, white floccosely-scaly above; sp. —

fastibile, Fr. Smell unpleasant. P. 4—7 cm. compact, exp. wavy, viscid, glabrous, pale yellowish tan; g. emarginate, rather distant, pallid then cinnamon, lacrymose; s. 4—7 cm. subbulbous, white, fibrously scaly, veil evident; sp. 10 × 6.

var. *alba*, Fr. S. longer, equal, partly hollow, apex fibrously scaly; g. distant.

var. *elegans*, Lindgr. Edge of p. sulcate or rugoso-plicate. Form B. Pileus purple-brown.

senescens, Batsch. P. 4—9 cm. exp. rather viscid, ochre or flesh-colour with tinge of rust, rusty yellow when old, edge crisped,

hoary; g. dusky rust colour; s. 6—9 cm. thinner and whitish upwards, scaly and darker below; sp. 10 × 6.

glutinosum, Lindg. P. 4—7 cm. exp. glutinous, with white superficial scales, yellowish white, discoid; g. crowded, yellowish then cinnamon; s. 6—7 cm. subbulbous, whitish squamulose, apex mealy; sp. 10—12 × 5.

testaceum, Batsch. Smells like radishes. P. 3—5 cm. campan.-convex, even, rather viscid, brick-red then pale, rather opaque; g. nearly free, crowded, rusty; s. 6—7 cm. hollow, subbulbous, floccosely fibrillose, pallid, apex mealy; sp. 10 × 5—6.

[**rubrum**, Otth. P. campan. then conico-exp. splitting into shreds, clear red, yellowish when dry; flesh reddish; g. free; s. equal, fibrous, often slightly bulbous, colour of p.

firmum, Pers. P. 4—7 cm. campan. exp. umb. viscid, brick-red, discoid; g. dry, edge white toothed; s. 4—7 cm. solid, pallid, everywhere floccosely scaly; sp. 10 × 5.

[**mitratum**, Fr. P. campan.-gibbous, viscid, often cracked, yellowish brick-red, umbo prominent, stout, fuscous then pale, g crowded, sinuato-adnate; s. solid or becoming hollow, equal, yellowish-white, fibrous, dusky yellow from veil.

claviceps, Fr. P. 2—5 cm. convex, exp. disc gibbous, even, naked, pallid; g. dry, pallid; s. 4—7 cm. equal, everywhere white mealy, fuscous downwards; sp. 10—11 × 5.

Differs from *H. firmum* in dark base of s. and paler g.

[**fusipes**, Bres. Smell like spirit of wine. P. convex-gibbous, edge broadly incurved, viscid, glabrous, tinged tan; g. broad, edge white-fimbriate; s. pallid, base fusiformly rooting; sp. 12—15 × 9—10.

[**birrum**, Fr. P. exp. discoid, disc rugulose, pale tan, with superficial white squamules near edge; g. rounded then truncate and free; s. solid, fusiformly rooting, rather woolly with white imbricated squamules.

punctatum, Fr. P. 2—5 cm. exp. silky then almost glabrous, the darker disc punctate with viscid warts, tan, paler when dry; g. narrow, crowded, pallid then rusty bay; s. 5—9 cm. hollow, equal, apex white pruinose; sp. 7—11 × 5—6.

versipelle, Fr. P. 5—7 cm. viscid with tough gluten, discoid, at length wavy, crust-colour, adglutinated and silky at edge, then glabrous; g. crowded, broad, reddish white then tan; s. 4—7 cm. silky-white, apex pruinose; sp. 12 long.

[**subtortum**, Karst. P. convex then plane, obtuse, even, glabrous, irreg. at first, silky near edge from veil, viscid, pale brick-red or pallid, disc darker; g. adnato-subdecur. crowded, edge crenate; s. hollow, usually twisted, whitish, apex mealy; sp. 7—9 × 4—6.

mesophaeum, Fr. P. 3—4 cm. conico-convex then plane, even, viscid, almost naked, gilvous, disc bay; g. emarginate, crowded, thin; s. 4—7 cm. tough, equal, slender, fibrillose, whitish then rusty, apex pruinose; sp. 7—8 × 4—5.

Disc of p. sometimes umber.

var. *holophaeum*, Fr. P. umb. everywhere dusky fuscous; s. fuscescent, subannulate.

strophosum, Fr. P. 2—3 cm. expanded, subumbonate, viscid, disc bay, edge white with veil; g. crowded; s. 3—5 cm. hollow, silky, whitish, ring near the apex distinct but imperfect; sp. 8—9 × 5.

[**elatellum**, Sacc. (= *Roumeguerites elatellus*, Karst.) P. hemisph. even, glabrous, naked, pale fuscescent, sometimes spotted, yellowish livid when dry; g. adnate, much crowded, narrow, pale tan; s. tall, equal, naked, whitish, ring, inf. entire, persistent, membranous, tinged fuscous; sp. 7—9 × 4—6.

subcollariatum, B. and Br. P. 2—3 cm. convex, exp. rather glutinous, pale ochre-tan, centre darker; g. broadly adnate, soon separating from s. and attached to a collar, pale tan, edge whitish; s. 4—5 cm. flexuous, pale, brownish below, pulverulent; sp. 12—13 × 6.

violascens, Otth. P. convex, umb. dry, silky shining, bright violet, disc adpressedly squamulose and brownish; g. reddish violet then brownish; s. pale violet then rufous-fibrillose, base slightly bulbous, yellowish.

[**deflectens**, Karst. P. exp. depr. rugulose, dry, scurfy-squamulose, bright yellow-tan; g. crowded, lanceolate; s. equal, fistulose, tough, rooting, paler than p. everywhere white-scurfy; sp. 7—9 × 5—6.

B. Denudati. *Pileus glabrous, veil absent from the first.*

sinapizans, Fr. Smell like radishes. P. 7—12 cm. compact, exp. rather wavy, even, glabrous, rather viscid, pale tan; g. deeply emarginate, broad, dry, crowded, entire; s. 6—10 cm. stout, equal, fibrillose, white, apex white-scaly; sp. 12 × 7.

Differs from *H. sinuosum* in strong smell and absence of veil.

crustuliniforme, Bull. P. 5—10 cm. convex then exp. glabrous, rather viscid, often rather wavy, yellowish-red, disc darker then pale; g. sinuate, thin, narrow, whitish then brown, edge crenulate and with beads of moisture; s. 4—7 cm. solid, firm, subbulbous, whitish, with minute white recurved flecks; sp. 11—12 × 6.

[**Syrjense**, Karst. P. convex, exp. obtuse, dry, even, glabrous, brick-red; g. adnexed, crowded, pallid, edge crenulate; s. equal, wavy, twisted, white, white-flocculoso-pulverulent above, at length entirely umber; sp. 10—11 × 5—6.

Subcaespitose; stems cohering at base.

hiemale, Bres. (= *H. crustuliniforme*, var. *minor*, Cke.) P. exp.-gibbous or depr. viscid, glabrous, edge incurved and white flocculose at first, pallid tan, centre reddish tan; g. crowded, sinuate and almost free, edge white-floccose; s. whitish, apex with white scurf; sp. 12—13 × 6—7.

Near to *H. crustuliniforme*, but smaller and smell obsolete.

[**subsaponaceum**, Karst. Smell strong, soapy. P. exp. obtuse, even, naked, dry, gilvous then pallid, darker when dry; g. adnate,

dry; s. elongated, equal, rather wavy, adpressedly fibrillose, apex rather mealy, pale, umber below when touched; sp. 6—10 × 4—6.

[**Stocseki**, Schulz. P. convex, even, whitish then yellow, centre tawny; g. adnexed, narrow, both ends narrowed, rufescent; s. cylindrical, thickened below, whitish, often striately-twisted; sp. 10 × 4—6.

[**Quéletii**, Schulz. P. umbonato-campan. then convex, white then ochre, sometimes rufous-brown, very even, subviscid in rainy weather, pellicle separable; g. subsinuato-adnexed, rounded in front, whitish then pale cinnamon; s. cylindrical, often curved at base, white base tinged brown; sp. 10—12 × 6.

[**involuta**, Lamb. (= *Paxillus nitens*, Lamb.) P. convex, glutinous when moist, shining as if varnished when dry, yellow brown, paler at edge which remains for a long time incurved; flesh yellowish, glabrous; g. free, cut out behind, narrow, crowded, brownish olive at last; s. reddish yellow above, darker below.

elatum, Batsch. Smell strong of radishes. P. 6—10 cm. convex, umb. glabrous, viscid, pinkish ochre whitish towards the edge; g. uncinate, wavy, crowded, dry, pale flesh-colour then bistre; s. 8—10 cm. soft, cylindrical, twisted, white then bistre, apex mealy, fibrillose or downy; sp. 13—15 × 7.

longicaudum, Pers. P. 3—6 cm. exp. even, subumb. glabrous, viscid, rather wavy, tan then whitish; g. crowded, dry, serrulate; s. 8—11 cm. partly hollow, fragile, fibrillose, subequal, white, apex with white meal; sp. 10 × 5.

var. *radicatum*, Cke. S. fusiform, rooting.

lugens, Jungh. Smell strong. P. 4—7 cm. exp. glabrous, rather viscid, brown then yellowish; g. pale rusty, edge crenulate, darker; s. 4—7 cm. shining, fibrillosely striate, subbulbous, apex white-mealy; sp. 10 × 6.

truncatum, Schaeff. P. 4—7 cm. exp. undulately wavy, almost dry, somewhat rufous, edge paler; g. crowded, dry; s. 1·5—2 cm. solid, stout, equal, everywhere slightly pruinose, white; sp. 12—13 × 6.

[**mentiens**, Karst. P. convexo-plane, edge angularly bent down, even, glabrous, dry, yellowish-tan, tinged tawny when dry; g. subadnate, broad, thin, white, yellowish when dry; s. hollow, fibrous, flexuous, glabrous, white, apex thickened and rather pruinose; sp. 6—7 × 3—4.

nudipes, Fr. P. 4—7 cm. exp. even, almost glabrous, slightly viscid, tan then pale, edge thin; g. crowded, dry; s. 4—6 cm. solid, equal, pelliculose, glabrous, naked, shining white, base fibrillose; sp. 12 × 6. (8—10 × 4—5 Sacc.)

[**sacchariolens**, Q. Smell strong, like burnt sugar. P. campan. then convex, 2—3 cm. thin, glabrous, viscid, whitish with the centre buff; g. sinuate, crinkled, whitish then buff bordered with white; s. slender, subfistulose, slightly striate, silky, pruinose at the summit, white, streaked with fawn fibrils below; sp. 12 long.

[**circinans**, Karst. P. campan.-convex, lubricous, smoky-ochre, edge revolute downy and whitish; g. sinuate, crowded, reddish, edge white, crenulate; s. slender, whitish, subbulbous, with reflexed circinate fibrils; sp. 11—12 long.

nauseosum, Cke. Smell nauseous. P. 3—4 cm. convex then exp. gibbous, viscid, whitish ochre; g. very broad; s. 3—5 cm. whitish, mealy above; sp. 20 × 10.

Differs from *H. crustuliniforme* in glabrous s.

capnicocephalum, Bull. P. 3—5 cm. exp. even, glabrous, gilvous, disc darker, edge becoming blackish; g. broad, rusty; s. 3—4 cm. narrowed downwards, fibrillosely-striate, pale rufescent; sp. 9 × 5. (12—14 × 7—8, Sacc.)

ischnostylum, Cke. P. 3—5 cm. exp. broadly umb. rather viscid, white or a little pallid at disc; g. edge serrulate; s. 4—5 cm. smooth, naked, whitish; sp. 12 × 7.

Differs from *H. nudipes* in whitish p.

[**diffractum**, Fr. P. convex, obtuse, glabrous, nearly dry, at length broken up into scales, tan; g. broad; s. hollow, white, narrowed below, whitish floccosely scaly above; sp. 10—12 × 4—5.

[**subzonatum**, Weinm. P. campanulato.-exp. viscid, with darker innately scaly zones, whitish; g. crowded, narrow; s. equal, rather bulbous, fibrillose, apex pruinose.

[**spoliatum**, Fr. P. exp. obtuse, viscid, even, glabrous, reddish tan; g. broad, crowded; s. equal, rooting, tough, glabrous, apex pruinose; sp. 10 × 6.

[**tortuosum**, Karst. P. convex, exp. gibbous, even, rufous-tan then pale, glabrous; g. pallid then honey-colour; s. narrowed below, hollow, contorted, pallid, apex with white floccose scales; sp. 6—9 × 4—5.

C. Pusilli. *Pileus scarcely an inch broad.*

magnimamma, Fr. P. 2—3 cm. exp. umbo strongly mammiform, naked, brick-red then pale; g. obtusely adnate, crowded; s. 2—3 cm. equal, glabrous, gilvous then pallid; sp. — .

[**sterile**, Jungh. P. campan.-exp. glabrous, even, dry, violet; g. free, narrow, rusty; s. solid, equal, glabrous, violet, apex floccosely pruinose.

[**odini**, Fr. P. exp. obtuse, naked, bay, edge tawny; g slightly sinuate, yellow then tawny; s. fibrillose, tawny bay.

petiginosum, Fr. P. 1·5—2 cm. conico-convex then exp. yellowish, gibbous disc fuscous, margin silkily hoary; g. free, yellow then olive bay; s. 3 cm. rufescent, pulverulent; sp. 10 × 5.

NAUCORIA, Fr.

A. Gymnoti. *Pileus glabrous. Veil absent. Spores rusty, not dingy rusty brown.*

* *Gills free or slightly adnexed.*

lugubris, Fr. P. 3—7 cm. campan.-exp. wavy, often viscid, even, pallid becoming rusty, opaque; g. free, very broad, crowded; s. 6—9 cm. glabrous, fusiformly rooting, pallid; sp. 7 × 4.

A form in pine woods has p. bullate, disc bay; s. short.

festiva, Fr. P. 2·3 cm. convex, subgibbous, even, glutinous, usually olive-brown, isabelline when dry; s. free, crowded, ventricose, rusty; s. 5—7 cm. hollow, fusiformly rooting, colour various, violet, rufous, &c.; sp. 12 × 6. (8 × 4 Sacc.)

Every part variable in colour.

[**christinae**, Fr. P. conico-acute, rather wavy, viscid, fiery cinnamon when moist, tawny and shining when dry, then pale; g. free, pallid then fiery saffron; s. cylindric, glabrous, rooting, dull blood-red; sp. 4—5 × 3—4.

[**medullosa**, Bres. Smell weak, like radishes. P. conico-campan. exp. subumb. viscid, glabrous, tawny then paler; g. crowded, almost free, edge white-pruinose; s. tinged fuscous, apex pale, pruinose, base thickened and white-downy, pith white, separable; sp. 7—9 × 4—5.

[**hilaris**, Fr. P. thin, even, rather viscid, tawny orange, shining; g. yellowish rusty; s. hollow, shining yellow.

[**subglobosa**, A. and S. P. hemisph. even, rather viscid, yellowish; g. nearly free, very broad, rhomboid; s. stuffed, thin, short, striate; sp. 8 × 4.

hamadryas, Fr. P. 3—5 cm. convex, exp. gibbous, even, rusty bay, yellowish red when dry and old; g. attenuato-adnexed, rusty; s. 5—7 cm. hollow, equal, glabrous, pallid; sp. 13—14 × 7.

[**nimbosa**, Post. P. convex exp. umb. pruinosely velvety, rufous brown; g. broad, rusty, edge fimbriate; s. everywhere pruinosely velvety, fuscous below, pale above; sp. 10—11 × 6.

cidaris, Fr. P. 2—3 cm. conical then campan. even, cinnamon tan, paler when dry, edge wavy, striate; g. ventricose, honey-colour; s. 2·5—3 cm. fusiform, blackish brown; sp. 10 long.

Differs from *M. cucumis* in absence of smell.

[**Jennyae**, Karst. P. conical, exp. subumb. acute, even, glabrous, dry, orange-bay; g. crowded; s. cartilaginous, fibrous inside, tough, fusiformly narrowed below, apex thickened, reddish bay; sp. 4—5 × 3—4.

cucumis, Pers. Smell strong, like cucumber. P. 1·5—2·5 cm. broadly campan. brownish bay when moist, edge paler; g. pallid then saffron; s. 2—4 cm. blackish brown, apex thickened, hollow, pruinose; sp. 9—10 × 5—6.

anguinea, Fr. P. 3—5 cm. campan. convex, gibbous, even, yellowish tan, a silky zone near the edge; g. crowded, linear, rusty; s. 5—7 cm. bay, densely coated with white fibrils; sp. — .

[**micans**, Fr. P. convex, gibbous, even, rather shining, yellow; g. greenish yellow then rusty; s. rufo-fuscous, pruinate.

centuncula, Fr. P. 1·5—2·5 cm. convexo-plane, lurid green then yellowish, becoming pale; g. thick, broad, greyish yellow; s. 2·3 cm. base with white down, apex white-pulverulent; sp. 8—10 × 6.

Stem usually incurved, often excentric.

[**laeta**, Lamb. Entirely clear yellow. P. convex, obtuse, glabrous; g. free, crowded, narrow; s. slender, elongated, glabrous.

horizontalis, Bull. Watery cinnamon. P. 1—2 cm. exp. even; g. broad; s. 1 cm. incurved, naked; sp. 12—13 × 7—8.

[**rimulincola**, Rab. Cinnamon. P. hemisph. umbil. plicate, rugulosely tomentose; g. thick, very broad, edge white, crenulate; s. subexcentric, short, curved; sp. 12—15 × 7.

semiflexa, B. and Br. P. 1 cm. exp. chestnut, edge fringed with white silky veil, hygr.; g. broad and distant; s. 1 cm. incurved, pale, solid; sp. 8 × 5.

[**pygmaea**, Bull. P. exp. obtuse, edge striate, ochre-tan; g. ventricose, rusty; s. fistulose, thin, wavy, glabrous, white.

rubricata, B. and Br. Gregarious. P. concave then exp. and depr. 4—7 mm. whitish then tinged rufous or ochre; g. adnexed, whitish then pinkish, finally brownish, rounded in front; s. slender, incurved, base scurfy or downy; sp. — .

** *Gills adnate, pileus convexo-plane.*

[**enchymosa**, Lund. P. exp. glabrous, disc minutely punctate, olive when moist, tan when dry; g. tawny then rusty; s. pallid then colour of p.

[**hyperella**, Fr. P. convex then plane, umbonate, fuscescent, hoary-rusty when dry; g. crowded, obscure rusty; s. filiform, silky fibrillose, pallid.

abstrusa, Fr. P. 2—3 cm. convex, obtuse, even, glabrous, viscid, rusty tan; g. crowded; s. 2—3 cm. rigid, glabrous, rusty; sp. 10 × 5.

N. melinoides differs in striate p.

[**flacca**, Karst. P. conoid-campan. tan or yellowish-cinnamon; g. adnate, soon free, colour of p.; s. cartilaginous, equal, paler than p. umber below, white-fibrillose; sp. 9—11 × 5.

innocua, Lasch. P. 2—3 cm. convex, obtuse, almost glabrous, striate, rufous then pale; g. yellowish ochre; s. 2—3 cm. white-fibrillose; sp. 11 × 4—5.

cerodes, Fr. P. 2—4 cm. convexo-plane, orbicular, even, hygr. wax-colour then ochre; g. broad, ochre cinnamon; s. 3—5 cm. equal, naked, yellow, base rusty; sp. 6 × 3. (12—16 × 6—8, Sacc.)

[**solstitialis**, Karst. P. campan. exp. depr. umb. fragile, glabrous, edge striate then torn, honey-colour then rusty cinnamon, rusty when

dry; g. entire, cinnamon; s. equal, straight, pallid then greenish umber; sp. 9—10 × 5—6.

melinoides, Fr. P. 1·5—2·5 cm. convexo-plane, obtusely umb. even, glabrous, tawny, ochre when dry; g. triquetrous-oblong, honey-colour, toothed; s. 3—4 cm. hollow, thickish, with yellow meal above, base white; sp. 10—12 × 4—5.

pusiola, Fr. P. 1 cm. hemispher. exp. obtuse, even, glabrous, rather viscid, tawny yellow; g. broad; s. 2 cm. slender, glabrous, yellow, shining; sp. 8 × 4.

[**miserrima**, Karst. P. plane, umb. sulcate then splitting, whitish when dry, glabrous; g. adfixed, distant, broad, ventricose, subochre; s. equal, base and apex slightly thickened, fistulose, straight, naked, whitish; sp. — .

* * * *Gills adnate; pileus campan. then exp.*

nucea, Bolt. P. globoso-campan. umbil. punctate, pale chestnut, edge incurved, rather lobed; g. rather crisped, cinnamon; s. 5—7 cm. silky fibrillose, white; sp. 10—11 × 6.

scolecina, Fr. P. 1—2 cm. campan.-convex then plane, edge slightly striate, rusty bay; g. white then rusty, edge flocculose; s. 5—7 cm. wavy, rusty rufous, white-mealy; sp. 10 × 6.

[**amarescens**, Q. P. slightly rugulose, brown then tan; g. uncinato-ventricose, whitish then tawny; s. striate, whitish saffron then umber; sp. 10 long.

sideroides, Bull. P. 2—3 cm. campan. exp. umb. glabrous, viscid, reddish-yellow, ochre and shining when dry; g. uncinately adfixed with a decur. tooth, narrow, crowded; s. even, glabrous, apex white-mealy, pallid, base brownish; sp. 8—10 × 4—6.

glandiformis, W. G. Sm. P. 2—3 cm. obtusely campan. then nut-shaped, nut-brown, smooth, even; g. very broad, umber; s. 6—9 cm. equal, pallid; sp. 10—12 × 6—8.

[**stictica**, Fr. P. convexo-plane, orbicular, even, rough with minute superficial granules; hygr. brownish ochre then tan; g. crowded, pale cinnamon; s. rusty brown.

[**typhicola**, P. Henn. P. thin, fragile, campan.-exp. subumb. flocculose then smooth, edge striate, hygr. fuscescent; g. unequal, subdistant, ventricose, flesh-colour then tawny; s. hollow, slender, mealy-squamulose then smooth, whitish, base bulbous, white tomentose; sp. 8—11 × 5—7.

badipes, Fr. P. 1—2 cm. campan.-convex subumb. glabrous, pellucidly striate from umbo when moist, rusty yellow then pale, edge almost straight; g. adnate, ventricose; s. 4—7 cm. rusty, with white fibrillose squamules up to middle; sp. 10 × 5.

hydrophila, Mass. P. 1—3 cm. campan. then slightly exp. acutely umb. glabrous, edge striate when moist, pale tan with tinge of green; g. brownish, edge pale; s. 3—5 cm. equal, flexuous, hollow, with red and green tints; sp. 12—14 × 6—7.

striaepes, Cke. P. 2—4 cm. campan. then exp. more or less gibbous, ochre; g. broad, tawny cinnamon; s. 4—7 cm. straight or wavy, hollow, white, distinctly longitudinally striate; sp. 10 × 4.

[**camerina**, Fr. P. campan.-convex, obtusely umb. glabrous, moist, edge striate, ochraceous tan, paler when dry, disc darker; g. crowded, yellowish cinnamon; s. wavy, adpressedly fibrillose, equal, umber.

triscopoda, Fr. P. 1 cm. conical then hemispher. then convexo-plane, umb. bay, ochre when dry; g. obscure rusty; s. 1—3 cm. filiform, glabrous, rusty, base umber; sp. 6—8 × 3—4.

B. Phaeoti. *Pileus naked. Gills and spores brownish-rusty.*

* Pediadei. *Growing in fields and pastures.*

[**amoena**, Weinm. P. almost plane, even, rather viscid, dingy yellow disc tinged rusty, then pale; g. adnate with decur. tooth, rusty; s. fibrously stuffed, equal, fibrillose, shining white; sp. 8—9 × 4—5.

vervacti, Fr. P. 2—3 cm. convexo-plane, umb. even, glabrous, viscid, shining when dry, yellow; g. adnate with decur. tooth, crowded; s. 3—4 cm. stuffed then hollow, attenuated, glabrous, rigid, not rooting, whitish; sp. 12—16 × 8—10.

pediades, Fr. P. 3—5 cm. convexo-plane, obtuse or depr. dry, at length minutely rivulose, yellowish ochre then tan; g. adnexed, broad; s. 4—7 cm. with a pith, rather wavy and silky, yellowish, base slightly bulbous; sp. 10—12 × 4—5.

semiorbicularis, Bull. P. 3—5 cm. hemispher. then exp. even, glabrous, rather viscid, at length rivulose, tawny rusty then ochre; g. adnate, very broad, crowded; s. 4—9 cm. pale rusty, shining, containing a free tube inside; sp. 10 × 5—6.

arvalis, Fr. P. 2—3 cm. convexo-plane, yellow brown, ochre when dry; g. adnexed; s. 2—4 cm. fistulose, thin, pulverulent, yellowish, with a long filiform root; sp. 9 × 5.

Differs from *N. orbicularis* in long rooting s.

tabacina, D. C. P. 1·5—2·5 cm. bay brown, almost plane, very obtuse, edge involute, hygr.; g. adnate, crowded, cinnamon bay; s. 3—4 cm. hollow, glabrous, cinnamon; sp. 8—9 × 4—5.

[**tabacella**, Sacc. Entirely cinnamon-brown. P. convex, centre squamulose; s. terete, toughish, fibrillose, base rather thickened; sp. 10—11 × 6.

[**undulosa**, Jungh. P. convex, even, umbo fleshy, bay, shining; g. adnate, ovate, distant; s. solid, firm, wavy, naked, colour of p.; sp. 6 × 4.

* * Scorpoidei. *Growing in damp uncultivated places or in woods.*

tenax, Fr. P. 1·5—2·5 cm. campan. exp. glabrous, rather viscid, hygr. cinnamon then ochre; g. adnate, edge entire, whitish; s. 3—5 cm. equal, yellowish fuscous, striate with adpr. fibrils, almost glabrous, veil fugacious; sp. 8 × 5.

myosotis, Fr. P. 3—5 cm. convexo-plane, subumb. with a viscid pellicle, olive or greenish brown then yellowish; g. adnato-decur. edge serrate, white; s. 7—12 cm. slender, pallid, fibrilloso-scaly-cortinate; sp. 11—12 × 6. (16—18 × 8—9 Sacc.)

[**Tavastensis**, Karst. P. convex, exp. disc. often depr. near edge with concentric large yellowish floccose scales, livid-yellow then dingy tawny tan; g. adnate, crowded; s. straight, subequal, solid, fibrillosely scaly, pallid then tinged fuscous, ring torn, yellowish; sp. 15—17 × 8—9.

[**scorpioides**, Fr. P. conico-convex, exp. glabrous, scarcely viscid, depr. round umbo, somewhat reddish tan then pale; g. adnate with a decur. tooth, edge coloured like rest, entire; s. slender, wavy, dry, pallid, white-fibrillose, apex pruinose; sp. 5—6 long.

temulenta, Fr. P. 1·5—2·5 cm. campan. convex, glabrous, subumb. hygr. edge slightly striate, rusty then ochre; g. adnate, narrow in front, lurid then rusty umber; s. 4—5 cm. fistulose but with a loose pith, thin, tough, polished, wavy, glabrous, apex powdery; sp. 12 × 6.

subtemulenta, Lamb. P. campan. then convex, slightly umb. striate, hygr. brown ochre when wet, tan when dry; g. crowded, narrow, almost free, colour of p.; s. slender, colour of p. thickened towards base and dark rusty.

latissima, Cke. P. 1·5—3 cm. subglobose, edge at first incurved, deep chestnut brown; g. adnexed, very broad, tawny umber; s. 3—5 cm. narrowed downwards into a rooting base, dark brown below, pale above; sp. — .

Differs from *N. glandiformis* in tapering, rooting s.

[**heliophila**, Fr. P. convex, umb. convex, dry, golden tawny, shining; g. adnate, closely crowded, plane, pallid; s. not polished, with scattered black points.

reducta, Fr. P. convexo-plane, hygr. striate to middle, membranaceous, rather olive or brownish honey-colour; g. dingy yellow then rusty; s. narrowed upwards, tough amber-brown, apex paler, pruinose.

C. Lepidoti. (Naucoria typical.) *Pileus flocculose or squamulose. Veil evident. Spores rusty.*

* *Scales of pileus superficial, disappearing.*

porriginosa, Fr. P. 2—4 cm. convex, exp. obtuse, viscid, tawny then pale, with scattered superficial saffron flecks; g. adnate, yellow-cinnamon; s. 4—7 cm. equal, silky, pallid.

[**lapponica**, Laest. P. convex, umb. then plane, viscid, rufous brown, discoid, with scattered yellow pilose scales; g. serrulate, white then brown; s. elongated, cuticle separating.

sobria, Fr. P. 1—2 cm. convexo-plane, rather viscid and silky, yellowish, veil pruinose, fugacious; g. adnate, crowded, broad, saffron then pallid, edge pale; s. 2—3 cm. fibrillose, base brownish, white-floccose; sp. 14—16 × 10.

var. *dispersa*, B. and Br. P. 0·5—1 cm. convex, ochre, punctulate, edge scurfy; s. scurfy, ring append.; g. pallid, edge white.

** *Pileus innately squamulose.*

erinacea, Fr. P. 1—2 cm. dry, convex, subumbil. squamulose with fascicles of hairs, rusty-umber; g. adnate, quite entire; s. 1—1·5 cm. incurved, hairy, colour of p.; sp. 9—15 × 6—7.

Dry as in *Marasmius*. Differs from *N. siparia* in entire edge of g. and stem squamulose throughout.

siparia, Weinm. P. 1—2 cm. plane, obtuse, woolly-scaly, reddish rusty; g. broad, edge floccose; s. 1·5—2 cm. squamulose, apex glabrous; sp. 8—10 × 4—5.

conspersa, Pers. P. 1—1·5 cm. fragile, convexo-plane, obtuse, hygr. soon broken up into scurfy squamules, cinnamon bay then ochre; g. adnate, crowded; s. 2—3 cm. fibrillose, apex scurfy-squamulose, colour of p.; sp. 8—9 × 5.

escharoides, Fr. P. 1—2 cm. conico-convex, exp. obtuse scurfy-squamulose, whitish tan disc becoming darker; g. lax, ventricose; s. 2—3 cm. wavy, adpressedly fibrillose pale then darker; s. 14 × 7.

[**suavis**, Bres. Smell pleasant, like ripe pears. P. campan. exp. umb. brownish, centre lurid tawny then pale, squamulose; g. crowded, pallid then tawny brown; s. equal, fuscous; sp. 9—10 × 4·5—5.

[**limbata**, Bull. P. exp. obtuse, even then concentrically floccosely squamulose, ochraceous-tan, edge striate then split; g. free, ochre-tan; s. fistulose, glabrous, white then yellowish; sp. 6—9 × 4—6.

var. *sublimbata*. Differs in solid s. which like p. is brick-red then pale; g. rusty.

[**Weislandri**, Fr. P. exp. obtuse, glabrous, tawny, cuticle cracked into areolae, hence the surface is crowded with minute dark wart-like papillae; g. adnate, broad, dark rust; s. filiform, almost naked, blackish.

*** *Pileus destitute of scales, silky or atomate.*

[**segestria**, Fr. P. soft, convex, exp. or depr. silky, hygr. tan then pale; g. adnate, crowded, narrow; s. soft, tough, fibrillose, pallid; sp. 9—10 × 6.

[**pannosa**, Fr. P. thin, exp. fuscescent, silky with white hairs; g. ventricose, distant, pale umber; s. filiform, almost glabrous, pallid.

[**hibala**, Karst. P. convexo-depr. hygr. surface loose and pannose, sooty-umber or olive-brown, yellowish-grey when dry; g. adnate, narrow, crowded, edge grey-flocculose, subdentate; s. base with white down, pulverulent-velvety with yellowish particles.

[**bryophila**, Roze and Boud. P. conico-campan. acute umbo blackish, rest reddish brown, striate; g. almost free, pale rose; s. cylindrical, almost translucent, brown, curved.

carpophila, Fr. P. 3—6 mm. thin, convex, obtuse, shining with scurfy particles, yellowish then pallid; g. broad, crenulate, ochre; s. 5—8 cm. scurfy then naked, pallid.

graminicola, Nees. P. 3—8 mm. convex, papillate, hairy-tomentose, fuscous then reddish ochre; g. rather distant, ochre then pallid; s. 1 cm. tough, hairy, brownish; sp. 7 × 4.

[**pityrodes**, Brig. P. dry, convex, plane, umb. very minutely downy-squamulose, whitish then rufescent, edge striate, toothed; g. ventricose, pallid; s. fistulose, tough, scabrid-squamulose, tawny, strigose below.

effugiens, Q. Very minute. P. thin convexo-plane, diaphanous, ochre, at length greyish olive and covered with shining crystalline grains; g. yellowish; s. incurved, mealy.

echinospora, W. G. S. P. at first rather scurfy, moist, hygr. citrin, greenish marginate then pallid, edge slightly striate; g. citrin; s. reddish-brown, white squamulose; sp. rough, 7 × 6.

GALERA, Fr.

I. CONOCEPHALI. *Pileus conico-campanulate, hygr. almost even, atomate when dry; stem straight, gills somewhat crowded, ascending.*

[**apala**, Weinm. P. campan. equal, obtuse, even, hygr. pallid livid, white when dry; g. almost free, whitish then ochre; s. tall, fragile, narrowed upwards, white-velvety; sp. 12—14 × 7—8.

var. *sphaerobasis*, Post. P. campan. even; s. shorter, glabrous, base spherical.

lateritia, Fr. P. 2—3 cm. high, nut-shaped then conical, even, hygr. gilvous then ochre, edge densely striate when moist; g. very narrow, tawny-rust; s. 6—9 cm. fragile, narrowed upwards, white-pruinose; sp. 11—12 × 5—6.

Differs from *G. ovalis* by narrow, ascending g.

tenera, Schaeff. P. 1—2 cm. high, conico-campan. obtuse, hygr. pale yellowish rusty, pale and rather atomate when dry; g. adnate, crowded, rather broad, cinnamon; s. 6—9 cm. straight, fragile, rather shining, colour of p.; sp. 12—13 × 7.

var. *pilosella*, Pers. P. and s. covered with short erect pubescence when moist.

[**flexipes**, Karst. P. campan. obtuse, rusty and slightly pellucidly striate, ochraceous when dry; g. adnexed, crowded, pallid then rusty, edge crenulate; s. equal, fistulose, wavy, pallid then rusty, white-fibrillose, apex white-pruinose; sp. 10—12 × 5—6.

[**pubescens**, Gillet. P. conical, reticulately wrinkled, atomate, very minutely pubescent, brown or ochre, hygr.; g. narrow, veined at base, rusty; s. tall, rigid, coarsely longitudinally striate above, finely pubescent, paler than p.

siliginea, Fr. P. 1—1·5 cm. globose, then campan. finally exp. unequal, even, greyish, not becoming pale; g. adnate, ochre; s. 4—7 cm. rather wavy, equal, pallid, rather pruinose; sp. 11—13 × 5—7.

campanulata, Mass. Smell strong. P. 1—2 cm. persistently campan. subacute, even, hygr. deep cinnamon, whitish, atomate and rather rugulose when dry; g. adnate, tawny cinnamon; s. 4—5 cm. wavy, pallid; sp. 12 × 7.

ovalis, Fr. P. 3—4 cm. thin, ovato-campan. even, hygr. dark rusty, yellowish when dry; g. nearly free, ventricose, very broad, rusty; s. 6—9 cm. straight, equal, slightly striate, colour of p. hollow; sp. 10 × 6.

Veil sometimes subannulate.

[**rabenhorstii**, Fr. P. acutely conical then exp. umbil. pellucidly striate, olive; g. lanceolate, white then rufous-brown; s. fibrously striate, brownish-white, base thickened, somewhat floccosely rooting.

antipoda, Lasch. P. 1·5—2·5 cm. campan.-convex, even, ochre, whitish and atomate when dry; s. 2—3 cm. striate, mealy, base bulbous and fusiformly rooting; g. almost free, crowded, yellowish-ochre; sp. 15—16 × 8.

conferta, Bolt. P. 1—2 cm. acutely conico-campan. striate, glabrous, hygr. fuscous, fuscous ochre when dry; g. slightly adnexed, white then brownish ochre; s. 2—4 cm. silky, shining, naked, with an equal very long rooting base; sp. — .

Densely crowded, very fragile.

spicula, Lasch. P. conico-campan. striate when moist, brown-ochre, flocculose when dry; g. adnate; s. straight, slender, white-floccose, base thickened, fibrillose.

spartea, Fr. P. 1—2 cm. campan.-convex, exp. obtuse, hygr. even when dry, glabrous, cinnamon then pale; g. adnate, crowded; s. 3—5 cm. rigid, flexile, glabrous; sp. — .

Resembling *G. tener* but smaller, and s. not straight.

pygmaeo-affinis, Fr. P. 2—3 cm. campan. exp. dry, not striate, slightly wrinkled, honey-tan; g. thin, crowded, very narrow, rusty-ochre; s. 4—6 cm. equal, shining white; sp. — .

Fries says this is possibly a tall form of *Naucoria pygmaea*.

II. Bryogeni. *Pileus membranaceous, campanulate, striate, glabrous, hygr. even, opaque and rather silky when dry; stem slender, lax, flexile; gills broadly and abruptly adnate, broad, somewhat denticulate.*

vittaeformis, Fr. P. 1·5—2·5 cm. conico-campan. papillate, striate, somewhat bay; g. adnate, ascending; s. 3—7 cm. equal, flexile, even, reddish; sp. 12 × 6.

rubiginosa, Fr. P. 0·5—1 cm. campan. obtuse, everywhere deeply striate, hygr. cinnamon or honey-colour, tan when dry; g. distant, broad, opaque; s. 4—5 cm. glabrous, reddish; sp. 10 × 5.

hypnorum, Batsch. P. 0·5—1 cm. campan. subpapillate, glabrous, striate, hygr. ochre or tawny-ochre then pale; g. broad, lax; s. 3—4 cm. wavy, colour of p. apex pruinose; sp. 10 × 6.

var. *bryorum*, Pers. Larger, watery cinnamon, papilla somewhat horny; sp. 10 × 6.

var. *sphagnorum*, Pers. Two to three times larger than type, yellowish-ochre; s. elongated, subfibrillose, tawny.

[**hypnicola**, Karst. P. conico-campan. obtuse, disc gibbous, deeply lineato-striate, livid fuscous, soon paler; g. crowded; s. equal, lax, flaccid, silky flocculose from veil, soon glabrous, pallid; sp. 10—12 × 7.

mniophila, Lasch. P. 1—1·5 cm. campan. subpapillate, striate, brownish yellow; g. broad, yellowish-ochre; s. 4—7 cm. equal, flexile, yellow, apex mealy; sp. 14 × 6.

minuta, Q. P. 3—5 mm. campan. striate, pale tawny bistre; g. arcuate, as broad as long; s. 1—2 cm. hair-like, tawny, shining, woolly and white at base; sp. 6 × 4.

[**aquatilis**, Fr. P. campan.-convex, subpapillate, glabrous, watery, edge striate, pallid honey-colour or hyaline, then whitish; g. distant, triquetrous, pallid; s. very long, slender, even, very glabrous, pallid; sp. 10—14 × 6.

[**tenuissima**, Weinm. P. campan. obtuse, glabrous, slightly striate, tinged olive; g. crowded, cinnamon; s. very slender, flexile, glabrous, cinnamon; sp. 10—13 long.

III. Eriodermi. *Pileus submembranaceous; veil evident, superficial, deciduous; at first—especially near the edge—silky or squamulose.*

pityria, Fr. P. campan. exp. glabrous, viscid, lurid, tan when dry, fugacious veil append.; g. slightly adnexed, crowded, rusty; s. fistulose, firm, glabrous, silvery, apex with white meal.

ravida, Fr. P. 1·5—3 cm. campan. then hemispher. even when moist, greyish, dingy ochre when dry, edge at first toothed with white veil; g. nearly free, gilvous; s. 2—3 cm. fibrilloso-striate, pallid, silvery; sp. 8—10 × 4.

mycenopsis, Fr. P. 1—2 cm. campan. exp. disc even, striate

to middle, at first silky-white near edge, ochre then pale; g. white then ochre; s. 6—9 cm. attenuated, white, silky; sp. 9—12 × 5—6.

[**morchelloides**, De Brond. P. conoid, obtuse, subgibbous, with anastomosing wrinkles, edge wavy, tawny ochre; g. whitish then fuscous; s. equal, squamulose, rufous.

[**vestita**, Fr. P. campan. striate, tawny yellow when moist, ochre when dry, edge fimbriately toothed with the veil; g. adnate, yellow then ochre; s. rigid, pulverulent, yellowish; sp. 10 × 4—5.

[**Sahleri**, Q. Minute. P. conical, acute, striate, chestnut tawny, honey-colour when dry, deciduous silky fibrils at margin; g. adnate, tawny ochre; s. fibrillose, shining; sp. 8—10 × 4—5.

TUBARIA, W. G. Sm.

I. Genuini. *Spores rusty.*

cupularis, Bull. P. 2—3 cm. plano-depr. obtuse, even, glabrous, rufescent then yellowish, hygr.; g. decur. crowded, tawny; s. 4—7 cm. fistulose, naked, narrowed upwards, whitish; sp. 6 × 3.

furfuracea, Pers. P. 1·5—5 cm. convex then plane and at length umbil. yellowish-cinnamon, hygr. hoary with the silky-squamulose veil, especially near edge; g. adnato-decur. rather distant, cinnamon; s. 2—5 cm. fistulose, flocculose, rigid, pallid; sp. 10 × 6.

var. *heterosticha*, Fr. P. subumb. depr. cinnamon, ochre then pallid when dry; s. almost naked.

var. *trigonophylla*, Fr. Small, becoming pale; g. very broad, triangular, more distant, ochre with a tawny tinge.

anthrocophila, Karst. P. convex, exp. wavy, dry, rusty-cinnamon pale when dry, with concentric white deciduous flecks near edge; g. adnate, dentate; s. wavy, often compr. pallid rusty, white-fibrillose; sp. 6—7·5 × 3—5.

Close to *T. furfuracea.*

paludosa, Fr. 0·5—1·5 cm. P. conic then convex, umb. not striate, yellowish fuscous, with silky pallid superficial flecks; g. decur. very broad behind, crowded, watery ochre; s. 6—9 cm. slender, elongated, flexuous, floccose, ochre or pale citrin; sp. 10 × 4.

stagnina, Fr. P. 2—3 cm. conical then convex, obtuse, rather viscid and striate when moist, rusty bay, even and pale ochre when dry, with white concentric floccose scales near edge; g. decur. very broad, ochre then rusty; s. 7—15 cm. reddish bay; sp. 10 × 5.

P. sometimes depr. and umbil.

[**vestita**, Q. P. 1—2 cm. thin, campan. creamy ochre, edge with a white dentate fringe formed by the torn ring; g. yellow, then fawn with a cream edge; s. fistulose, slender, mealy, creamy white; ring membranous, thin, white, caducous; sp. 10 long.

pellucida, Bull. P. 1—2 cm. conical then campan. umb. cinnamon, hygr. silky-squamulose near the striate edge; g. subdecur. very broad behind, triangular, paler than p.; s. 3—5 cm. narrowed upwards, shining, pale, apex mealy; sp. — .

muscorum, Pers. P. 0·5—1 cm. convex, centre becoming depr. striate, glabrous, yellow-fuscous; g. subdecur. paler; s. short, base thickened, colour of p.; sp. 6—8 × 4.

embola, Fr. P. 1—2 cm. campan. then convex, obtuse, lineato-striate, glabrous, yellowish tawny, hygr.; g. very broad behind, triangular, thick, distant; s. 3—5 cm. thickened upwards, glabrous, shining yellow when dry; sp. 10 × 4—6.

Differs from *Omph. umbellifera* in glabrous finely striate p. and s. thickened upwards.

[**viscidula**, Karst. P. campan. striate, viscid, somewhat ochre; g. adnate, distant, white then rusty; s. equal, rusty, paler upwards, white-flocculose; sp. 6—7 × 3—6.

autochthona, B. and Br. P. 0·5—1 cm. hemispher. obtuse, pale ochre, silky, edge flocculose; g. adnate with decur. tooth, honey-colour; s. 2—3 cm. wavy or curved, thickened above and below, base woolly; sp. 8 × 4.

Differs from *T. furfuracea* in the p. not becoming pale, and sp. paler.

II. Phaeoti. *Spores fuscous-rusty.*

crobula, Fr. P. 1—2 cm. convex then plane, obtuse, not striate, rather viscid, covered with deciduous floccose subsquarrose scales, then naked, greyish tan; g. subdecur. crowded; s. 2—3·5 cm. tough, fuscous, densely covered with white floccose scales; sp. 10 × 6.

Almost a large-sized *T. inquilina* with the veil of *A. furfuracea*, but evidently annulate.

inquilina, Fr. P. 1—2 cm. convex then plane, glabrous, rather viscid, striate when moist, hygr. tawny or hoary-tan; g. subdecur. rather distant, triangular, tan then brownish umber; s. 2—3 cm. tough, bay, white-fibrillose; sp. 8 × 4.

Close to *T. crobula*, differs in glabrous p., striate when moist, and nearly glabrous s.

var. *ecbola*, Fr. P. tan; s. rooting; g. crowded, rusty.

[**caricicola**, P. Henn. P. thin, convex, depr. centre brownish, even, glabrous, yellowish-brown, silky when dry; g. shortly decur. rusty; s. slender, curved, brown, base darker; sp. 8—10 × 3·5—4·5.

FLAMMULA, Fr.

I. Gymnoti. *Veil absent; pileus dry, often squamulose.*

gymnopodia, Bull. Rusty brown. P. 4—7 cm. fleshy, campan.-convex, squamulose; g. deeply decur. arcuate, crowded, rusty; s. 3—6 cm. solid, almost glabrous, equal; sp. — .

Aldridgei, Mass. P. 2—5 cm. convex then infundib. edge incurved, dry, orange brick-red, minutely velvety; g. deeply decur. rusty orange; s. 6—9 cm. wavy, smooth, colour of p.; sp. 16 × 5.

vinosa, Bull. P. 2—4 cm. exp. then depr. rusty fawn-colour; g. decur. crowded, narrow, rusty; s. 2—3 cm. solid, firm, base rather thickened, minutely flocculose; sp. 5 × 3.

[**Tamii**, Fr. P. convex, dry, floccosely silky, dusky yellow, with tinge of brown; g. adnate, orange tawny; s. solid, silky fibrillose, equal, yellowish rufous.

[**abrupta**, Fr. P. convexo-plane, disc becoming depr. obsoletely umb. glabrous, shining tawny; g. adnate with decur. tooth, pallid then tawny; s. fibrillose, tawny yellow; sp. 5—7 × 3—5.

floccifera, B. and Br. Caespitose. P. 4—5 cm. convex, exp. tawny, white-fibrillose, somewhat zoned when dry; g. adnate, wrinkled, rusty, edge white; s. 3 cm. narrowed downwards, scurfy at apex, white and silky-squamulose below; sp. — .

[**muricella**, Fr. P. convex then plane, tawny, covered everywhere with suberect darker erect innate squamules; g. adnate, crowded, dingy yellow; s. solid, equal, glabrous, pallid.

decipiens, W. G. Sm. P. 2—3 cm. deep clear brown then pale, convex, obtuse or umb. dry, minutely scaly, flesh yellow; g. decur. orange-brown; s. 3—4 cm. narrowed downwards, tawny, striate; sp. 6—7 × 4.

Differs from *F. carbonaria* in decur. bright g.

clitopila, Cke. and Sm. P. 3—4 cm. convex then exp. depr. and umbil. smooth, dry, purplish brown; g. dingy yellowish; s. 4—5 cm. ventricose, smoky brown, hollow; sp. 10 × 4—5.

II. Lubrici. *Pileus covered with a viscid, continuous, partly separable cuticle; veil evident, fibrillose.*

lenta, Pers. P. 4—7 cm. convexo-plane, even, viscid, livid or tan, at first with scattered scales; g. adnate, whitish then tan; s. 4—5 cm. equal, scaly; sp. 10 × 4. (6—7 × 3—4 Sacc.)

Sometimes entirely whitish; p. glutinous when moist.

Stevenson considers the present and *Hebeloma glutinosum* to be identical.

lubrica, Fr. P. 5—9 cm. exp. plane, even, viscid, cinnamon or tawny or pallid and disc tawny and spotted with squamules; g. adnate, broad, tan; s. 5—12 cm. somewhat narrowed, fibrillose, whitish, apex striate; sp. 8 × 4.

lupina, Fr. P. 4—9 cm. exp. and depr. even, viscid; g. adnato-decur. broad, pallid tan; s. 2—3 cm. short, firm, unequal, with rusty tinged adpressed fibrils, apex white; sp. 8 × 4.

There are two forms: A. Smell strong, pungent, p. fuscous then tan; s. becoming rusty. B. Milder, p. tawny; s. and g. yellowish.

mixta, Fr. P. 2—5 cm. convexo-plane, viscid, crust-colour, disc darker, rugulose; g. subdecur. crowded; s. 3—7 cm. hollow, pallid, fusco-fibrillose, rufous-scaly below; sp. 10 × 5.

juncina, W. G. Sm. P. 3—4 cm. hemispher. exp. even, glabrous,

sulphur, disc brown; g. decur. sulphur then reddish brown ; s. 8—10 cm. tapering downwards, sulphur, base tawny; sp. — .

decussata, Fr. P. plane, obscurely umb. viscid, virgate with innate radiating fibrils, crust-colour ; g. adnate, crowded, narrow, yellowish then tan ; s. tawny.

gummosa, Lasch. P. 3—6 cm. plane, floccosely scaly then even, viscid, yellow or greenish ; g. adnate, crowded, yellow then cinnamon; s. 4—7 cm. silky fibrillose, base reddish ; sp. — .

spumosa, Fr. P. 3—5 cm. exp. even, viscid, yellowish ; g. adnate, yellow then rusty ; s. 4—9 cm. equal, slender, fibrillose, yellowish ; sp. 9 × 5.

[**Henningsii**, Bres. P. convex, exp. greenish-yellow or citrin, centre tinged fuscous, with disappearing brownish squamules ; g. sinuato-adnate, crowded, yellow then tawny cinnamon ; s. fibrillosely squamulose then almost glabrous, tawny-yellow ; sp. 8—9 × 5·5.

[**carbonaria**, Fr. P. 3—5 cm. almost plane, even, viscid, somewhat tawny, flesh yellow ; g. adnate, tan becoming fuscescent ; s. 3—7 cm. rigid, squamulose, pallid ; sp. 10—11 × 5—6.

III. Udi. *Cuticle of pileus continuous, not distinct or separable, glabrous* (frequently with superficial down), *moist or slightly viscid in rainy weather. Veil evident, appendiculate.* Spores not tawny nor ochre. Allied to *Pholiota*, caespitose, growing on wood.

fusus, Batsch. P. 4—8 cm. compact, convexo-exp. even, rather viscid, reddish tan, flesh yellowish, veil append. ; g. subdecur. yellowish then rusty ; s. 4—5 cm. fibrillosely striate, base narrowed, colour of p. rooting ; sp. 10 × 4.

var. *superba*, Mass. P. 8—12 cm. deep orange; s. pale orange; g. narrow, bright yellow.

filia, Fr. P. 4—7 cm. exp. glabrous, moist in rainy weather but not viscid, pale reddish yellow ; g. adnate, arcuate, tawny yellow ; s. 8—14 cm. glabrous, pale yellow, hollow ; sp. 10 × 5.

[**cortinata**, D. C. Caespitose. P. convex, glabrous, discoid, veil append. ; g. adnate, rusty ; s. hollow, unequal, squamulose, white.

var. *cortinella*, Dub. P. ovoid-convex, yellow or greyish-yellow ; g. whitish then rufous-lilac, at length vinous.

astragalina, Fr. P. 2—4 cm. exp. discoid, at first superficially silky near edge, saffron blood-red, flesh same ; g. adnate, crowded, pale yellow then rusty ; s. 3—9 cm. wavy, fibrillosely scaly, pallid ; sp. 10 long.

alnicola, Fr. P. 3—7 cm. exp. moist, even, at first subfibrillosely scaly then nearly glabrous, yellow then rusty, rarely greenish ; g. broad, pallid then rusty ; s. 4—9 cm. partly hollow, narrowed to a rooting base, fibrillose, yellow then rusty ; sp. 9 × 4.

flavida, Schaeff. P. 3—7 cm. exp. equal, glabrous, moist, yellow ; g. yellow then rusty ; s. 5—9 cm. yellow then rusty ; 6—8 × 5.

inaurata, W. G. Sm. Sulphur yellow. P. 2—3 cm. moist, smooth, with a distinct veil; g. adnate with a decur. tooth; s. 2—3 cm. with innate scales; sp. — .

conissans, Fr. P. 3—7 cm. thin, exp. equal, moist, glabrous, yellowish tan; g. crowded, pallid then dingy tan; s. 4—7 cm. hollow, silky fibrillose, pallid; sp. 8 × 4.

Habit of *Hypholoma fasciculare.*

inopoda, Fr. P. 3—9 cm. exp. moist, glabrous, honey-coloured tan; g. linear, yellowish white then pallid; s. 7—14 cm. slender, wavy, adpressedly fibrillose, at length reddish below; sp. 10 × 6.

apicrea, Fr. 3—7 cm. exp. even, glabrous, moist, tan or dingy orange, disc tawny; g. crowded, shining rusty; s. 4—7 cm. hollow, equal, not rooting, pallid, base with rusty fibrils; sp. 7 × 3.

Differs from *F. alnicola* in unchangeable gills, flesh hygr.; p. clay-colour, disc tawny becoming pale, smell sweet.

[**austera**, Fr. P. campan.-convex exp. obtuse, moist, discoid, fibrillose then glabrous, hygr. honey-colour, disc tawny; g. subdecur. always cinnamon; s. hollow, equal, not rooting, silky fibrillose, whitish.

[**azyma**, Bull. P. convex-exp. obtuse, moist, even, hygr. pale rusty, flocculose and rimosely squamulose when dry; g. adnate, gilvous, edge whitish; s. fibrillosely cortinate, pallid; sp. 10 long.

IV. SAPINEI. Pileus hardly pelliculose (flesh cracking or torn into squamules towards disc), not viscid. *Veil* adpressedly fibrillose to the stem, *not appendiculato-cortinate, almost none, or forming a zone on stem.* Known more especially by yellowish or tawny yellow gills and ochre or tawny spores. Subcaespitose, always growing on pines or on pine branches etc. on the ground.

[**stabilis**, Weinm. P. compact, exp. even, glabrous, ochre, gibbous disc darker; g. whitish then tawny cinnamon; s. stout, rigid, whitish with ochre fibrils.

penetrans, Fr. P. exp. dry, almost glabrous, golden or orange tawny; g. yellowish-white spotted tawny; s. silky then striate, pallid, very fugacious flocculose veil white; sp. 8—9 × 4—5.

hybrida, Fr. P. 4—5 cm. hemispher. exp. obtuse, glabrous, even, moist, tawny cinnamon then tawny orange; g. adnate, pale yellow then tawny; s. 4—7 cm. narrowed upwards, tawny, whitish cortinate and cingulate; sp. 7—8 × 4—5.

[**harmoge**, Fr. P. campan. adpressedly squamulose, rather viscid, disc fleshy, verdegris green, rest lilac or pinkish; g. adnate, broad, sulphur then tawny-saffron; s. colour of p. veil floccosely radiating.

sapinea, Fr. P. 3—7 cm. exp. very obtuse, minutely flocculosely

squamulose then rimosely broken up, golden tawny; g. adnate, broad, golden then tawny cinnamon; s. 3—5 cm. deformed, thick, grooved, rooting, yellowish; sp. 8 × 5.

[**Studeriana**, Fayod. P. convex then exp. edge acute, deep orange, covered with deciduous, purple-brown radiating silky fibrils; g. adnexed, brownish-tan, not spotted; s. cylindrical, fibrillose and coloured like p.; sp. rough, 8 × 4—5.

liquiritiae, Pers. P. 3—7 cm. splitting, convexo-plane, subumb. glabrous, moist, edge at length slightly striate, tawny orange; g. broad, golden then tawny cinnamon; s. 4—5 cm. hollow, fibrous, striate, silky and white then tawny-rusty; sp. — .

picrea, Fr. P. 2—3 cm. cracking, convexo-exp. even, glabrous, rufous- or bay-cinnamon then tawny; g. crowded, narrow, yellow then rusty; s. 4—7 cm. fistulose, thin, somewhat umber, narrowed upwards, pulverulent at first; sp. 8—10 × 5—6.

nitens, Cke. and Mass. Caespitose. P. 3—5 cm. hemispher. obtuse, shining, persistently purple brown; g. pallid then umber; s. 4—7 cm. fibrillose, pale pinkish brown, solid; sp. 10 × 5—6.

[**limulata**, Fr. P. convex then irreg. densely papillosely-rivulose with innate flecks, tawny; g. crowded, yellow then cinnamon; s. thin, fibrillose, rather downy, fuscescent; sp. 6—7 × 3—4.

V. Sericelli. *Cortinate, cuticle of pileus rather silky, dry or viscid at first.*

[**Agardhii**, Fr. P. convex then exp. obtuse, dry, fibrillosely silky, almost even, tawny-rusty; g. adnato-decur. crowded, tan then brown-rusty, edge paler, crenulate; s. equal, wavy, fibrillosely cortinate.

ochrochlora, Fr. Caespitose. P. 3—5 cm. convexo-exp. obtusely umb. dry, rather silky, subsquamulose, greenish straw-colour; g. adnate, crowded, greenish-white then olive; s. 4—5 cm. hollow, scaly and white-floccose, wavy, base and inside rusty; sp. 8 × 4.

Resembling *Hypholoma fasciculare*, differing in rusty sp.

helomorpha, Fr. White. P. 1·5—2·5 cm. exp. gibbous, unequal, viscid, silky when dry, edge naked; g. adnato-decur. crowded, white then tan; s. 2—3 cm. solid, unequal, curved, even, almost glabrous; sp. 10 × 6.

scamba, Fr. P. 2—4 cm. exp. subdepr. floccosely downy, viscid in damp weather, white then tinged tan; g. subdecur. yellowish tan; s. 3—4 cm. short, incurved, flocculosely cortinate, white, base narrowed; sp. 10—12 × 5—6.

Introduced species.

filicea, Cke. P. 2—4 cm. convexo-exp. or slightly depr. squamulosely fibrillose, deep yellow disc tawny, veil reddish, append.; g. adnate, sulphur then tawny; s. 3—5 cm. hollow, sulphur, base tawny; sp. 8 × 5.

purpurata, Cke. and Mass. P. 3—4 cm. exp. obtusely umb. purple or purple-brown, squamulose, dry; g. adnate, yellow then rusty; s. 3—4 cm. incurved, purplish and granulose below; sp. 8 × 5.

CORTINARIUS, Fr.

Key to the Sub-genera.

I. **Phlegmacium.** Partial veil cobwebby. Pileus equally fleshy, viscid; stem firm, dry. p. 177.

II. **Myxacium.** Universal veil glutinous, hence the pileus and scarcely bulbous stem are viscid. Pileus rather thin; gills adnate or decurrent. p. 183.

III. **Inoloma.** Pileus equally fleshy, dry, at first scaly, fibrillose or innately silky, not hygrophanous. Veil simple. Stem fleshy, sub-bulbous. p. 185.

IV. **Dermocybe.** Flesh of pileus thin, everywhere equal, at first downy or subinnately silky, but glabrous when adult, dry, not hygrophanous. p. 188.

V. **Telamonia.** Pileus hygrophanous, at first glabrous or with whitish superficial fibrils. Flesh entirely thin or the margin abruptly so, splitting. Universal veil peronate, or forming a ring low down on the stem, apex somewhat cortinate, hence the veil is double. p. 191.

VI. **Hydrocybe.** Pileus glabrous or covered with superficial white fibrils, not viscid but moist when growing, losing the deep colour and becoming pale when dry, flesh very thin, splitting, disc rarely thicker. Stem rather rigid, not peronate; veil thin, fibrillose, rarely collapsing and forming an irregular zone round the stem. p. 196.

I. Phlegmacium.

Partial veil cobwebby. Pileus equally fleshy, viscid. Stem firm, dry.

* Cliduchii. *Partial veil superior, forming a pendulous ring round the apex of the subequal or clavate stem.*

† *Gills pallid then tan.*

triumphans, Fr. P. 7—12 cm. convex then exp. even, yellow, at first with a few adpr. darker scales; g. emarginate, crowded, quite entire; s. 7—14 cm. solid, clavate, with several concentric squamulose tawny rings; sp. 12—14 × 5—6.

[**crocolitus,** Q. P. disc. with saffron squamules; g. white, lilac, then tan; s. squamulose, ring thin, yellowish-white.

claricolor, Fr. P. 7—12 cm. firm, exp. glabrous, shining when

dry, yellow, often cracked into scales; g. subadnexed, crowded, serrate, greyish white then pallid; s. solid, at first floccoso-squamulose from white veil; sp. 11—12 × 6—7.

turmalis, Fr. P. 5—9 cm. convexo-plane, even, glabrous, discoid, dingy yellow; g. emarginato-decur. crowded, subserrate, tan; s. 7—12 cm. cylindric, white, at first woolly-peronate; sp. 8—9 × 5.

crassus, Fr. P. 7—11 cm. flesh thick, plano-depr. dingy yellow, disc glabrous, rest fibrilloso-strigose; g. crowded, quite entire, tan; s. 6—9 cm. stout, fibrillose, white, apex mealy; sp. 15 × 7.

balteatus, Fr. P. 7—9 cm. exp. compact, soon dry and broken up into flecks, tawny, edge violet or bluish; g. emarginato-decur. crowded, entire, whitish; s. at first peronato-tomentose, white, apex velvety; sp. — .

sebaceus, Fr. P. 6—12 cm. incurved then exp. rather wavy, pallid, white-pruinose; g. emarg. not crowded, tan; s. 6—10 cm. solid, equal, fibrillose, pallid; sp. 9 × 7.

lustratus, Fr. Wholly whitish. P. 3—5 cm. exp. even, glabrous, edge fibrillose, cortinate; g. closely crowded; s. 3—5 cm. solid, nearly equal; sp. — .

Resembling *Entol. prunuloides*, but sp. ochre.

†† *Gills violet or purplish, then cinnamon.*

varius, Fr. P. 5—7 cm. compact, discoid, edge glabrous, flesh white, rusty; g. crowded, entire, purplish then cinnamon; s. 3—5 cm. conical, adpr. flocculose, whitish; sp. — .

cyanopus, Fr. P. 5—8 cm. exp. even, glabrous, bay or tawny, flesh whitish; g. adnato-emarg. broad, violet then pale; s. 4—5 cm. violet then whitish, bulb depressed, oblique; sp. — .

variicolor, Fr. P. 8—11 cm. compact, discoid, tomentose edge violet, rest bay; g. decur.-emarginate, bluish then tan; s. 8—11 cm. villose at first blue then whitish; sp. 9—10 × 5. Flesh bluish then pallid.

var. *nemorensis*, Fr. P. 6—9 cm. yellowish-bay, edge at first bluish; s. clavate, 7 cm. apex hollow, mealy; g. rotundato-subdecur.

largus, Fr. P. 8—14 cm. exp. wavy, subgibbous, tan or reddish, flesh grey then white; g. broad, crowded, entire, grey then cinnamon; s. 8—12 cm. solid, fibrillose, curved, violet then white; sp. 12—14 × 7.

[**spadiceus**, Fr. P. exp. smoky bay, pellicle separable; g. blue then brownish-tan; s. fibrilloso-striate, pallid.

[**pelmatosporus**, C. Mart. P. subglobose then campan. or convex, brown or chestnut, centre darker, edge sulcate, incurved then exp. white fibrillose veil persistent; s. stuffed, stout, apex white, violet below, bulb submarginate, yellow; g. sinuate, adnexed; sp. very large.

Riederi, Fr. P. 4—7 cm. campan. then exp. glutinous, ochre, shining when dry; g. adnate, eroded, violet then cinnamon; s. clavate, silky lilac, tawny fibrillose, 6—9 cm.; sp. 12 × 5.

† † † *Gills yellow, cinnamon, or ferruginous (not whitish violet at first).*

[**percomis**, Fr. P. convexo-plane, even, very glabrous, gilvous; g. sulphur yellow then tan, broad; s. clavate, sulphur inside.

[**vitellinopes**, Secr. P. exp. depr. edge of margin upturned, discoid, glabrous, egg-yellow; g. rusty cinnamon; s. solid, rather wavy, white above ring, fibrillose and yellow below.

saginus, Fr. P. 8—11 cm. plano-convex, unequal, glabrous, yellow; g. decur. broad, eroded, pallid then cinnamon; s. 7 cm. somewhat bulbous, yellowish, apex naked; sp. — .

[**cliduchus**, Fr. P. depr. shining, discoid, bright yellow; g. serrate, rusty-cinnamon; s. slightly curved, fibrillose, yellow.

russus, Fr. P. 6—9 cm. convexo-plane, silky fibrillose near edge, coppery; g. adnate, broad, connected by veins, rusty; s. 6—7 cm. attenuated, pallid, fibrillose; sp. 8—10 × 5.

† † † † *Gills olive.*

[**cephalixus**, Fr. P. plane, rather wavy, olive, edge yellowish, disc with brown granules; g. adnexed, thin, eroded, white then rusty olive; s. clavate, brownish squamulose below.

infractus, Fr. P. 6—7 cm. exp. virgate, edge thin, incurved, olive or yellowish; g. broad, crowded, olive-umber; s. 6—7 cm. ovately bulbous, tinged olive; sp. 10 × 8.

anfractus, Fr. P. 5—7 cm. unequal, bent inwards, wavy, olive then tawny fuliginous; g. crisped, rather distant, sooty-olive then tan; s. 4—6 cm. unequal, apex violet; sp. — .

Berkeleyi, Cke. P. 7—14 cm. convex then exp. edge incurved, rugulose, pale, rest brown; g. narrow, cinnamon with olive tinge; s. 8—14 cm. base bulbous, solid, white; sp. 15—16 × 8—9.

Whole young fungus enclosed in a white volva, patches of which often remain on p.

* * Scauri. *Bulb depressed or turbinate, marginate, stem fleshy, fibrous; veil inferior, springing from margin of bulb; pileus equally fleshy; gills subsinuate.*

† *Gills whitish then tan or pale cinnamon.*

multiformis, Fr. P. 4—7 cm. exp. equal, glabrous, yellow or tawny all over, flesh white; g. serrate, white then tan; s. 5—9 cm. yellowish white; sp. 10—12 × 5, rough.

var. *flavescens*, Cke. Flesh and gills yellow.

[**rapaceus**, Fr. P. convexo-plane, even, whitish-tan, not becoming paler; flesh white; g. crowded, entire, white then tan; s. stuffed, short, white, bulb depr. marginate.

napus, Fr. P. 5—7 cm. exp. glutinous, edge incurved, tawny; g. rather distant, crisped, smoky; s. 4—5 cm. equal, white, bulb obconic and oblique; sp. 10 × 5.

allutus, Fr. P. 2—3 cm. conico-convex, orange yellow, intense yellow when dry, then pale, edge darker, flesh rufescent; g. adnate, crenulate, white then rufous; s. 2—3 cm. viscid, white, rufous striate below, marginately bulbous; sp. — .

talus, Fr. P. 4—7 cm. convex, even, dingy yellow then pale, edge yellowish olive; g. pale ochre; s. 6—7 cm. cylindric, glabrous, marginately bulbous, pallid; sp. 8—9 × 4—5.

†† *Gills violet, blue, purplish, becoming cinnamon.*

glaucopus, Fr. P. 6—9 cm. compact, incurved then expanded, rather wavy, viscid then floccoso-squamulose or fibrillose, olive-bay then tawny yellow; g. broad; s. 6—8 cm. striate, bluish then yellowish, base marginate; sp. 8 × 4—5.

[**pansa**, Fr. P. compact, incurved, wavy, glabrous, spotted with innate scales, shining, tawny orange, flesh white; g. entire, blue; s. marginate, yellow.

[**variegatus**, Bres. P. convex then exp. and umb. edge incurved, rufous-brick-red, white fibrillose then glabrous and yellowish tan; g. closely crowded; s. fibrillose, whitish then tinged rusty, base narrowed and somewhat rooting, or marginately bulbous with a clear violet silky basal zone; sp. 8—10 × 3·5—4.

calochrous, Fr. P. 4—5 cm. exp. flesh compact, white; tawny yellow; g. serrate, bluish-purple; s. 3—5 cm. fibrillose, yellowish (never blue), bulb abruptly marginate; sp. 7—8 × 4.

caerulescens, Fr. P. 5—7 cm. convex then exp. dingy yellow or tan, flesh blue then pale; g. entire, at first pure deep blue; s. 4—5 cm. solid, attenuated, naked, bulb marginate blue or violet becoming whitish; sp. 9—10 × 5.

purpurascens, Fr. P. 8—12 cm. exp. rather wavy, glutinous, bay or reddish, then tawny olive, spotted, flesh everywhere blue; g. blue then tan, purple when bruised; s. 6—7 cm. fibrillose, deep blue, darker when bruised, marginate bulb disappearing; sp. 10—12 × 5—6.

var. *subpurpurascens*, Fr. P. thinner, subvirgate, becoming pale; s. stuffed, bluish white.

††† *Gills rusty, tawny, or yellowish.*

dibaphus, Fr. P. 6—9 cm. convex then exp. purplish, disc yellowish, variegated with lilac; flesh yellow, violet under the cuticle; g. rusty purple; s. 6—7 cm. yellow, apex purplish, bulb marginate; sp. 12 × 5.

var. *xanthophyllus*, Cke. G. for a long time yellow.

turbinatus, Fr. P. 5—9 cm. exp. orbicular, dingy yellow or greenish, all one colour, glabrous, becoming pale; g. crowded, entire;

s. 4—5 cm. cylindrical, bulb turbinate, marginate, whitish or tinged yellow; sp. 14—16 × 7, rough.

corrosus, Fr. P. 4—7 cm. exp. umbil. glabrous, viscid, ferruginous then pale tan, at length rivulose or subfloccose, opaque when dry, flesh firm, white; g. closely crowded, narrow; s. 3—5 cm. white, cortina fibrillose, apex naked, bulb depr. marginate; sp. — .

fulgens, Fr. P. 4—7 cm. exp. silky-fibrillose, viscid, tawny orange, flesh becoming spongy and tan; g. emarginate, tawny; s. 5—6 cm. colour of p. fibrillose and woolly, bulb large, depr. marginate; sp. 9 × 5.

Stem viscid when young in damp weather.

[**sulfurinus**, Q. P. convex, sulphur yellow, edge white, disc with saffron points; g. sulphur then tawny; s. silky, yellowish white.

fulmineus, Fr. P. 3—5 cm. exp. tawny, edge orange, with adpressed tawny scales; g. at first pure yellow; s. 2—3 cm. yellow, naked, apex with a white veil, bulb ample, rooting; sp. 10 × 5—6.

Stem slightly viscid at first. *C. fulgens* differs in tan-coloured flesh.

elegantior, Fr. P. exp. even, glabrous, edge at first incurved, tawny, flesh yellowish; g. egg-yellow then olive; s. yellowish, marginately bulbous.

orichalceus, Fr. P. 5—9 cm. exp. with a viscid pellicle, disc reddish tawny cracked into patches, edge livid; g. sulphur then greenish; s. 4—7 cm. fibrillose, yellowish, marginately bulbous; sp. — .

testaceus, Cke. P. 6—9 cm. exp. obtusely umb. or depr. brick-red then paler; g. adnate; s. 6—9 cm. whitish above, tinged rufous below, bulb submarginate, flesh tinged reddish; sp. 16 × 8, rough.

†††† *Gills olivaceous.*

[**rufoolivaceus**, Pers. P. exp. rufous then paler; g. crowded, olive; s. green then yellowish, bulb submarginate.

prasinus, Fr. P. 4—7 cm. exp. dingy bluish-green, spotted as if scaly, edge incurved; g. rather distant, olive-yellow; s. 4—5 cm. marginately bulbous, pale olive-green; sp. 10 × 5.

atrovirens, Kalchbr. P. 6—9 cm. convex, dusky-green or dusky-olive, flesh yellowish green; g. yellow-green then tan; s. 6—7 cm. bulb marginate, subturbinate, flesh tinged greenish; sp. 10 × 6.

scaurus, Fr. P. 3—7 cm. equal, exp. smoky-tawny then pale, spotted, edge thin becoming striate; g. crowded, purplish-olive; s. 6—7 cm. greenish or bluish, never yellow, narrowed upwards from marginate bulb; sp. 10 × 5.

herpeticus, Fr. P. 3—7 cm. exp. olive then dingy tan, flesh violet then whitish; g. violet-umber then sooty-olive; s. 5—7 cm. fibrillose, pallid, bulb napiform, marginate; sp. 10 × 6.

*** Elastici. *Veil simple, thin, fugacious, median or inferior. Stem never marginately bulbous or peronate, but elastic, rigid, externally polished, shining, cartilaginous.*

† *Gills white then tan or dingy cinnamon.*

cumatilis, Fr. P. 7—9 cm. obtuse, with bluish-violet gluten, disc brownish; g. adnexed, serrate; s. 6—7 cm. subbulbous, white, veil forming a volva at base; sp. — .

serarius, Fr. P. 3—9 cm. gibbous, not polished, viscid, opaque, reddish-tan; g. arcuato-adfixed; s. 7—9 cm. fibrillose, shining, and like the flesh white; sp. — .

emollitus, Fr. P. 6—8 cm. exp. wavy, slightly fibrillose-virgate, tawny then ochre and shining; g. white then ochre; s. 3—4 cm. scarcely bulbous, fibrillose, white as is also the flesh; sp. — .

cristallinus, Fr. P. 5—7 cm. exp. very glabrous, viscid, shining, hygr. pallid, edge whitish; g. crowded, tan; s. 5—6 cm. hollow, nearly equal, white; sp. 8 × 4.

decoloratus, Fr. P. 4—9 cm. exp. soon dry and flocculose, tan then pale, often corrugated when old; g. greyish-tan; s. 6—7 cm. base thickened, fibrillosely-striate, silvery; sp. 7 × 4.

†† *Gills violet, purplish or flesh-colour.*

decolorans, Fr. P. 3—5 cm. exp. all one colour, yellow; g. dry, purplish then tan; s. 5—8 cm. narrowed upwards, and like the flesh, white; sp. 10 × 8.

porphyropus, Fr. P. 3—5 cm. exp. thin, virgate, ochre, often spotted; g. rather crowded, thin; s. 5—9 cm. somewhat attenuated, lilac, purplish when bruised as is also the flesh; sp. 10—12 × 7.

[**rubropunctatus**, Karst. P. thin, convexo-plane, even, glabrous, glutinous, yellow; g. adnexed, crowded, white then ochre; s. wavy, fibrillose, white, apex pruinose red-punctate; sp. 8—10 × 4—5.

croceocoeruleus, Fr. P. 2—3 cm. exp. lilac; g. lilac then orange-tan; s. 4—5 cm. hollow, fragile, white; sp. 8 × 5.

[**maculosus**, Fr. P. conico-convex then exp. and wavy, whitish spotted with umber scales; g. pinkish-white, grey then tan; s. squamosely fibrillose, white.

††† *Gills pure ochre, tawny, or rusty.*

corruscans, Fr. P. 7—11 cm. plane, even, glabrous, yellowish ochre often spotted; g. plano-decur. closely crowded, ochre; s. 7—12 cm. solid, elastic, white; sp. — .

papulosus, Fr. P. 5—8 cm. discoid, soon rivulose, granulato-punctate, honey-tan, disc darker; g. adnato-decur.; s. 6—7 cm. fibrillose, white; sp. — .

[**intentus**, Fr. P. exp. soft, ochre or tawny; g. adnate, closely crowded, bright saffron; s. hollow, rigid, fragile, yellowish.

[**compar**, Fr. P. exp. even, yellowish, edge thin; g. adnate, rusty-cinnamon; s. fibrillose, apex lilac.

[**subsimilis**, Fr. P. exp. sooty brown, flesh white; g. adnate, smoky then tan; s. solid, equal, fibrillose, tawny.

†††† *Gills olive or smoky.*

[**olivascens**, Fr. P. exp. olive then sooty at length pale; g. tan tinged olive; s. silvery-pallid. Taste very acrid.

II. Myxacium.

Universal veil glutinous, hence pileus and scarcely bulbous stem viscid. Pileus rather thin. Gills adnate or decurrent.

* Colliniti. *Stem floccosely peronate, flocci at first covered with gluten.*

[**alutipes**, Lasch. P. exp. obtuse, even, yellow-brown or bay; g. adnate, rather distant, tawny cinnamon; s. solid, stout, peronato-annulate, glutinous.

arvinaceus, Fr. P. 6—9 cm. exp. edge patent, golden-tawny or reddish-tan; g. adnato-decur. straw-colour then ochre; s. 10—17 cm. cylindric, yellowish-white, silky-viscid; sp. — .

collinitus, Fr. P. 7—11 cm. fleshy, convex and incurved then exp. even, shining, tawny-orange; g. adnate, greyish tan then cinnamon; s. 7—12 cm. cylindric, floccosely glutinous broken up into transverse squamules; sp. 12 × 6.

var. *mucosus*, Fr. Firmer. S. even, silky; g. whitish then rusty.

[**alpinus**, Boud. P. convex camp. firm, viscid, tawny yellow; s. white, apex sulcate, ring and below glutinous; g. adnate, broad, cinnamon, edge paler. Flesh pale ochraceous.

Differs from *C. collinitus* and *C. livido-ochraceus* in very convex p. and permanently white s. grooved at apex.

mucifluus, Fr. P. 3—7 cm. campan.-exp. smeared with hyaline gluten that disappears, edge striate livid-tan or yellowish; g. adnate, tan; s. 5—7 cm. narrowed downwards, viscid and floccosely squamulose, white or tinged violet; sp. 12 × 7.

elatior, Fr. P. 7—9 cm. cylindrical then exp. thin except disc, plicato-rugose, livid yellow then dingy ochre; g. adnate, very broad, connected by veins; s. 10—16 cm. narrowed to both ends, whitish or tinged lilac; sp. 12 × 6.

grallipes, Fr. P. 4—7 cm. thin, campan. then exp. umb. even,

hygr. rusty then ochre; g. adnato-decur. very broad; s. 9—14 cm. stuffed then hollow, rather wavy, yellowish; sp. — .

Habit of *C. hinnuleus*, but viscid.

livido-ochraceus, B. P. 3—5 cm. very thin, exp. ochre; g. rounded behind and slightly adnexed, cinnamon; s. 2—3 cm. narrowed at both ends, whitish; sp. 8—10 × 5—7.

[**suratus**, Fr. P. convex, equal, yellow, shining, disc depr. brownish, cracked; g. adnate, violet then dingy flesh-colour; s. solid, rather bulbous, flexuous, with yellowish scales, apex naked, tinged violet.

* * DELIBUTI. *Veil entirely viscid, stem not floccosely peronate but only viscid, shining when dry.*

† *Gills whitish then tan.*

nitidus, Fr. P. 5—12 cm. exp. or depr. discoid, honey-coloured tan then pale, disc tan; g. truly and equally attenuato-decur. crowded; s. 5—9 cm. clavate, white, apex with white meal; sp. 10—12 × 8.

[**emunctus**, Trog. P. campan. convex, pale violet then grey; g. adnate, subdistant; s. glutinous, pallid, apex naked, white.

[**liquidus**, Fr. P. exp. even, glutinous, yellowish, silky and whitish when dry; g. truly decur. distant; s. attenuated, glutinous, white.

†† *Gills at first violet, bluish or reddish.*

salor, Fr. P. 4—5 cm. exp. gibbous, innately fibrillose, violet; g. adnate, tan, edge violet; s. 4—7 cm. solid, conically attenuated, bulbous, glabrous, covered at the apex with the blue glutinous veil; sp. 8—10 × 6.

[**naevosus**, Fr. P. exp. subdepr. reddish yellow, crowded with minute spot-like scales; g. emarginate, broad, blue then tan; s. solid, pallid grey, with yellowish hyaline gluten.

delibutus, Fr. P. 5—7 cm. exp. obtuse, yellowish with viscid hyaline gluten; g. adnate, serrulate, pallid blue then rusty; s. 5—9 cm. thin, attenuated, with whitish gluten; sp. 8 × 4.

var. *elegans*, Fr. P. and s. quite glabrous, with yellow viscidity, shining when dry; flesh yellowish white.

illibatus, Fr. P. 3—5 cm. campan.-convex, then exp. and subumb. yellow disc darker; g. adnato-decur. crowded, rosy then tan; s. 5—7 cm. white, glabrous, often with reddish spots above; sp. 15—16 × 6—7.

††† *Gills at first ochraceous or cinnamon.*

[**epipoleus**, Fr. P. exp. gibbous, hoary-shining; g. decur. edge wavy, rather distant, tan; s. bulbous, clavate, obsoletely violet, viscid.

stillatitius, Fr. P. 3—5 cm. exp. subumb. even, smeared at first with blue gluten, then livid fuscous, finally greyish-white; g. emarginate, broad; s. 5—7 cm. hollow, very soft, with blue mucus; sp. 8 × 4.

Somewhat resembling *C. elatior* but smaller, and veil not floccose.

vibratilis, Fr. P. 4—5 cm. thin, almost plane, subgibbous, hygr. yellow or tawny, golden and shining when dry; g. adnato-decur. crowded; s. soft, conical, snow-white, glutinous veil fugacious; sp. 8 × 5.

Habit of *C. armeniacus* and *C. causticus*. Differs from both in very soft, snow-white stem, and glutinous veil.

pluvius, Fr. P. 1·5—2·5 cm. globose, then convex, viscid, hygr. yellowish tawny, tan and opaque when dry; g. decur. then seceding, white then ochre; s. 5—6 cm. slender, subequal, soft, white then pallid; sp. 10 × 8.

[**oliveus**, Q. P. fibrilloso-virgate, viscid, olive green, flesh yellowish-olive; s. silky, citrin, base clavate; g. reddish amethyst.

III. Inoloma.

Pileus equally fleshy, dry, at first scaly, fibrillose or innately silky, not hygrophanous. Veil simple. Stem fleshy, subbulbous.

* *Gills at first white or pallid.*

opimus, Fr. P. 6—9 cm. hard, exp. unequal, dry, with adpressed tan tomentum, rimoso-rivulose; g. emarginate, white then tan; s. 2·5—3 cm. hard, stout, pallid, with white fibrils; sp. — .

var. *fulvobrunneus*, Fr. P. glabrous then rivulose; g. very broad.

[**argutus**, Fr. P. conical then exp. subgibbous, silky-fibrillose, ochraceous; g. adnate; s. solid, ventricose, fibroso-squamose, yellowish white.

turgidus, Fr. P. 4—7 cm. exp. atomate then glabrous, whitish tan, shining, edge at first silky; g. emarginate, crowded, edge entire; s. 4—6 cm. bulbous, rimosely-striate, glabrous, silvery shining; sp. — .

Differs from *C. argentatus* in very obtuse p. and entire edge of gills.

[**praestans**, Cord. P. convex, orbicular, silky-shining, brownish violet; g. hyaline then grey; s. fibrous inside, solid, whitish, cylindrical, sometimes wavy, rather bulbous. Esculent.

argentatus, Krombh. P. 6—9 cm. convex, almost glabrous, silvery grey, shining, disc subgibbous, pallid, near the edge at first silky-lilac; g. emarginate, crowded, serrate; s. 7—9 cm. stout, white; sp. 8 × 5.

var. *pinetorum*, Fr. Smaller. At first lilac and silky.

*** Gills with veil and stem more or less violet.*

violaceus, L. P. 7—14 cm. very fleshy, dark violet, with downy scales; g. broad, thick, distant, dark; s. 6—9 cm. bulbous, spongy, downy, greyish violet; sp. 12—14 × 9—10.

Dark violet both outside and inside.

cyanites, Fr. P. 6—10 cm. obtuse silky, even, pale blue; g. at first clear blue; s. 7—12 cm. blue, bulbous, with red juice; sp. 10 × 5—6.

var. *major*, Fr. P. and s. slowly becoming reddish; g. dark blue-grey.

[**calopus**, Karst. P. convex, exp. even, hoary, silky-lilac near edge at first, then more or less rusty; g. adnate, at first pale cinnamon, entire; s. solid, equal, base thickened, usually curved, purple-lilac then pale, floccosely-scaly then pale; sp. 7—8 × 4—5.

muricinus, Fr. P. 7—10 cm. obtuse, rufous violet, edge fibrillose; g. rather crowded; s. 6—7 cm. bulbous, juiceless, downy, purplish violet; sp. 8—9 × 4—5.

Flesh sky-blue then whitish.

[**cinereo-violaceus**, Fr. P. obtuse, violet then umber, squamulosely punctate; g. adnate, purple-umber; s. clavato-bulbous, firm, juiceless, reddish violet then pallid.

albo-violaceus, Fr. P. 5—7 cm. convex, silky, at length broadly gibbous, whitish violet; g. serrulate, greyish violet; s. 4—5 cm. clavate, whitish violet, with a median ring-like zone; sp. 12 × 5—6.

malachius, Fr. P. 4—5 cm. pale lilac then brownish, tan when dry, white-fibrillose at first; g. crowded, pale purple then rusty; s. 7—10 cm. bulbous, bluish-peronate; sp. 10—12 × 6—7.

camphoratus, Fr. Smell strong. P. 5—8 cm. obtuse, lilac, silky, then whitish or yellowish, flesh blue; g. clear blue then purplish; s. 7—12 cm. bulbous, juiceless, bluish from the cortina, inside the base white; sp. 9 × 6.

hircinus, Fr. Smell strong, foetid. P. 4—5 cm. obtuse or gibbous, with adpr. silky violet fibrils then pale, disc glabrous becoming rusty; g. broad, violet then cinnamon; s. 4—5 cm. bulbous, juiceless, violet then pallid, base yellowish inside; sp. — .

**** Gills and veil cinnamon, red or ochre.*

traganus, Fr. Smell strong, foetid. P. 5—7 cm. obtuse, lilac-fibrillose then pale; g. thick, crenate, at first saffron-ochre; s. 7—12 cm. bulbous, spongy, tinged violet, inside saffron; sp. 9—10 × 6.

var. *finitimus*, Weinm. Smell not so foetid as in type; s. yellowish and mottled inside.

tophaceus, Fr. P. 7—9 cm. obtuse, tawny-ochre, villosely scaly, flesh white; g. emarginate, tawny cinnamon; s. 5—7 cm. villoso-scaly, yellowish; sp. 10 × 5.

Entirely ochraceous or yellow.

var. *redemitus*, Fr. P. slender, at length broadly gibbous, golden-yellow, with darker adpressed fibrils; s. fibrillosely striate, base slightly thickened.

suillus, Fr. P. 7—9 cm. obtuse, brick-red then paler, margin silky then innately squamulose; g. adnate, broad, opaque, tan; s. 7—9 cm. clavate, spongy, adpressedly woolly below, middle fibrillose, apex silky, even, violet; sp. — .

Gills fragile, connected by veins at base.

callisteus, Fr. P. 4—5 cm. convexo-plane, tawny-yellow, nearly glabrous, even, innately squamulose, flesh yellowish; g. adnate, floccosely connected behind; s. 7—11 cm. bulbous, tawny fibrillose; sp. — .

Bulliardi, Fr. Smell strong. P. 3—7 cm. campan.-convex, subgibbous, even, or squamulose, rufescent; g. adnexed, broad, rusty-purplish; s. 4—6 cm. bulbous, short, firm, vermilion fibrillose below, apex whitish; sp. 8—10 × 6.

vinosus, Cke. P. 5—7 cm. subgl. then exp. vinous red, smooth, even, shining; g. adnexed, ventricose, rusty tan; s. 5—8 cm. thickened abruptly into a reddish marginate bulb, pale violet above; sp. 16—18 × 8.

[**pavonius**, Fr. P. convex, obtuse, broken up into broad vermilion scales; g. violet then cinnamon; s. solid, short, bulbous, with rufous fibrils.

bolaris, Fr. P. 2—5 cm. exp. obsoletely umb. reddish-yellow, variegated with saffron-red, innate, pilose adpressed scales, then pale; g. subdecur. crowded; s. 5—7 cm. stuffed then hollow, nearly equal, scaly, colour of p.; sp. 10 × 5.

[**craticus**, Fr. P. fleshy, campan.-exp. obtusely umb. covered with reddish brick-coloured, innate interwoven fibrils; g. crowded; s. solid, narrowed upwards, glabrous, reddish below, becoming pale, base tomentose.

**** *Gills and veil dusky, fuscous, or olive.*

pholideus, Fr. P. 4—9 cm. exp. obtusely umb. fawn, densely squamulose with blackish fascicles of hairs; g. violet then tan; s. 6—9 cm. with dusky squarrose squamules up to ring, apex even, violet; sp. 5 × 3—4.

sublanatus, Fr. Smell resembling radishes. P. 6—9 cm. campan.-exp. umb. brownish tan, with innate pilose squamules; g. olive then yellowish; s. 6—7 cm. attenuated from a bulbous base, glabrous and pallid above, squamulose with fuscous down below; sp. 14—16 × 8—9.

phrygianus, Fr. Smell like radishes. P. 5—7 cm. obtuse, honey colour, hispid with crowded simple black fibrils; g. dingy yellow; s. bulbous, with a lax reticulation of black fibrils; sp. — .

arenatus, Fr. P. 4—7 cm. convex, gibbous at first, reddish tawny, granular with floccose squamules; g. yellowish tan; s. 6—7

cm. brownish squamulose above the middle, apex even, pallid; sp. 7 × 5.

C. phrygianus differs in blackish squamules of p. and s. and strong smell of radishes. Both are often tinged olive when young.

[**melanotus**, Kalchbr. P. convex, yellow, covered with minute, adpressed, blackish-olive scales, flesh olive-yellow; g. yellowish cinnamon; s. solid, narrowed upwards, yellowish, with small umber scales up to ring.

penicillatus, Fr. P. 3—4 cm. convex, umb. rusty-brown, densely floccose with innate scales; g. dusky brown; s. 4—7 cm. slender, equal, with adpressed rusty-brown scales; sp. 8—9 × 5.

IV. Dermocybe.

Flesh of pileus thin, everywhere equal, at first downy or subinnately silky, but glabrous when adult, dry, not hygr.

* *Gills at first whitish or pallid.*

ochroleucus, Fr. P. 4—7 cm. gibbous then obtuse, even, pallid white; g. crowded becoming ochre-tan; s. 4—7 cm. solid, firm, ventricose, white; sp. 8 × 4—5.

decumbens, Fr. P. 3—4 cm. exp. even, white then yellowish, shining; g. tan from first; s. 3—4 cm. hollow, clavato-bulbous, ascending, pallid; sp. — .

riculatus, Fr. P. 5—7 cm. exp. gibbous, yellowish, with adpressed silky bloom, becoming whitish, disc naked; g. adnate; s. 5—7 cm. hollow, pallid, base thickened.

tabularis, Fr. P. 6—9 cm. soon plane, flocculose then almost glabrous, brownish tan then pale; g. emarginate; s. 5—7 cm. white, adpressedly fibrilloso-scaly then almost glabrous; sp. — .

[**ochrophyllus**, Fr. P. exp. dry, glabrous, brownish olive then pale; g. ochre then tan; s. solid, pallid, variegated with darker adpressed scales.

camarus, Fr. Fragile. P. 5—7 cm. gibbous, hoary brown then pale; g. subadnate; s. 5—7 cm. partly hollow, equal, curved, inside and outside white, apex silvery shining; sp. 8—9 × 6—7.

diabolicus, Fr. P. 2—3 cm. hemispher. obtuse then gibbous, fucescent with a grey bloom, then glabrous and tawny yellow; g. subemarginately adnexed; s. 6—7 cm. glabrous, pallid, apex grey; sp. 10—12 × 7.

* * *Gills at first violet then purplish.*

caninus, Fr. P. 5—9 cm. exp. nearly glabrous, rufous-brick-red, tawny when dry; g. broad, purple then cinnamon; s. 5—7 cm. clavately bulbous, subperonate, pallid, apex violet; sp. 8 × 5—6.

myrtillinus, Fr. P. 5—7 cm. gibbous then flattened, sooty, hoary with white fibrils; g. rather distant, amethyst-blue then bluish tan; s. 4—5 cm. bulbous silky, not zoned, whitish; sp. 10 × 5.

Apex of stem violet; no purple in g.

azureus, Fr. P. 3—5 cm. silky or atomate shining, hoary lilac; g. clear blue-violet; s. 4—7 cm. glabrous, slightly striate, base thickened, downy, whitish; sp. 9 × 6.

albocyaneus, Fr. P. 3—5 cm. exp. hoary silky then glabrous, white then yellowish; g. broad, crowded, bluish purple then subochre; s. 6—9 cm. subclavate, naked, whitish; sp. 6—10 × 4—7.

Differs from *C. anomalus* in clavate s. and flattened p.

anomalus, Fr. P. 2·5—5 cm. obtuse then gibbous, sooty-rufous, hoary fibrillose then glabrous and tawny; g. crowded, bluish-purple then cinnamon; s. 5—7 cm. thin, attenuated, fibrillose, somewhat scaly, violet then pallid; sp. 8—9 × 7.

spilomeus, Fr. P. 2—3 cm. exp. gibbous, dry, fuscous then tan; g. crowded, narrow; s. 4—5 cm. whitish lilac variegated with tawny rufous scales; sp. — .

Differs from *C. anomalus* in scaly stem.

lepidopus, Cke. P. 2—4 cm. exp. gibbous, umber with a tinge of violet at edge, becoming rufescent; g. adnate, violet then cinnamon; s. 6—9 cm. narrowed upwards, rather wavy, whitish or tinged lilac, with concentric darker zones; sp. 9 × 6.

[**Lebretonii**, Q. P. lilac then fawn; s. lilac, dotted with saffron flecks.

* * * *Gills shining cinnamon, red, or yellow. Stem and fibrillose cortina coloured.*

miltinus, Fr. P. 3—5 cm. convex, bay-cinnamon, soon very glabrous and shining; g. adnate, narrow, crowded, rusty; s. 5—7 cm. equally narrowed upwards, cinnamon, reddish-fibrillose; sp. 6 × 4.

cinnabarinus, Fr. Smell strong, like radishes. Every part crimson-lake. P. 2—5 cm. obtuse, silky then almost glabrous, shining; g. adnate, broad, rather distant, darker; s. 3—5 cm. fibrillose; sp. 8 × 5.

Differs from *C. sanguineus* in stuffed s., radishy smell, and broad gills with an olive tinge.

sanguineus, Fr. Entirely blood-red. P. 2—5 cm. obtuse, innately silky or squamulose; g. crowded, broadish; s. 3—5 cm. stuffed then hollow, thin, equal; sp. 6—7 × 4.

anthracinus, Fr. P. 1·5—3 cm. convex exp. umb. somewhat chestnut; g. adnate, crowded, scarlet, blood-red when bruised; s. 4—5 cm. fibrillose, deep blood-red; sp. 7 × 5.

cinnamomeus, Fr. P. 2·5—5 cm. obtuse, umb. somewhat cinnamon with yellowish innate fibrils; g. adnate, broad, crowded, shining, yellowish; s. 4—9 cm. equal, with flesh and veil yellowish; sp. 7—8 × 4—5.

var. *croceus*, Fr. Smaller. P. subsquamulose, sometimes tinged olive; g. less crowded, yellowish and sometimes olive, as is also the s.

var. *semisanguineus*, Fr. G. blood-red or orange-red.

uliginosus, B. P. 2—3 cm. conico-campan. then exp. strongly umb. bright red-brown or brick-red, flesh olive-yellow; g. adnate, yellow, olive, tan; s. 4—9 cm. flexuous, paler than p.; sp. 7 × 4—5.

croceoconus, Fr. P. 2—5 cm. conico-campan. persistently acute, tawny cinnamon; g. linear, crowded; s. 4—7 cm. slender, flexuous, hollow; sp. — .

orellanus, Fr. P. 3—5 cm. obtusely umb. villosely squamulose or fibrillose orange-tawny, flesh reddish; g. adfixed, broad; s. 3—5 cm. solid, fibrillosely striate, tawny; sp. 6—7 × 3—4.

Differs from *C. cinnamomeus* in solid stem and reddish flesh.

malicorius, Fr. P. 2—5 cm. exp. obtuse, velvety-fibrillose, tawny-golden, flesh splitting, yellow then olive-green; g. crowded, tawny orange, edge becoming flocculose; s. 4—5 cm. hollow, fibrillose, golden; sp. — .

Differs from *C. cinnamomeus* in persistently hollow s. golden then olive-brown; flesh yellow then greenish- or golden-olive.

infucatus, Fr. P. 3—5 cm. convex, obtuse, bright yellow; g. adnate, crowded, tawny then cinnamon; s. 4—5 cm. narrowed from clavate base, fibrillose, whitish or yellowish; sp. 10 × 5.

[**fucatophyllus**, Lasch. P. acutely umb. fibrillosely scaly, brownish; g. broad, yellow with crimson spots, denticulate; s. fibrillose, yellowish, veil reddish.

colymbadinus, Fr. P. subgibbous, with seceding yellow fibrils, yellowish; flesh splitting, yellowish; g. rather distant, broad, thick, rusty, edge white-floccose; s. equal, fibrillosely striate, naked, pallid.

* * * * *Becoming olivaceous. Veil dingy, pallid or tinged fuscous. Pileus not broken up into scales.*

cotoneus, Fr. P. 5—8 cm. olivaceous, campan. exp. bullate, wavy, innately velvety; g. olive then brownish tan; s. 5—8 cm. solid, base thickened, pale olive, veil forming a fuscous zone; sp. 10—11 × 8.

subnotatus, Fr. P. 6—9 cm. campan. then exp. olive then fuscous, at first clothed with superficial hoary squamules, soon glabrous; g. yellowish then olive tan; s. 6—9 cm. conical, squamulose with yellowish fragments of veil, apex glabrous, shining; sp. 10 × 5.

valgus, Fr. Fragile. P. 5—7 cm. convex, subgibbous, almost glabrous, olive then brick-red, edge submembranaceous; g. dingy yellow red then brick-red; s. 7—12 cm. twisted, naked, pallid, shining, apex striate, tinged violet, bulb with white down, rooting; sp. — .

raphanoides, Fr. Smell strong, like radishes. P. 2—5 cm.

campan. then exp. gibbous, silky with innate fibrils, olive then tawny; g. olive then cinnamon; s. 5—7 cm. firm, fibrillose, paler; sp. 8 × 5.

[**depexus**, Fr. P. thin, convex then plane, brick-red becoming pale; g. adnate, yellowish then cinnamon, opaque; s. equal, fibrillosely striate, pallid.

venetus, Fr. P. 3—5 cm. thin, convex then exp. silky-villose, olive then yellowish, opaque; g. broad, veined, yellowish-olive then olive-cinnamon; s. 4—7 cm. fibrilloso-striate, with the veil colour of p.; sp. 10 × 5.

P. obtusely umb. sea-green or clear yellow-green as is the flesh.

[**olivascens**, Karst. P. thin, edge submembr. firm, equal, convex then plane, even, glabrous, olive; s. pallid, fibrillose, ring fugacious; g. adnexed, very broad tawny rusty; sp. 7—10 × 3—4.

V. Telamonia.

Pileus hygr. at first glabrous or with whitish superficial fibrils. Flesh entirely thin or the margin abruptly so, splitting. Universal veil peronate or forming a ring low on the stem; apex somewhat cortinate, hence the veil is somewhat duplex.

* Platyphilli. *Gills very broad, thickish, more or less distant. Stem spongy or entirely fibrous.*

(Colour when dry given in brackets.)

† *Stem and veil white or whitish.*

macropus, Fr. P. 6—7 cm. convex, incurved, then exp. hoary with minute squamules, brick-red then rusty; g. distant, very broad; s. 7—14 cm. equal, fibrillose, whitish, ring distant; sp. 8 × 5.

[**testaceo-canescens**, F. P. convex, brick-red, with greyish squamules; g. emarginato-adnate; s. rigid, equal, silky-shining.

laniger, Fr. P. 6—7 cm. exp. woolly with white superficial scales, then glabrous and bright or dusky tawny; g. saffron-tawny; s. white, peronate up to distinct ring, veil shining white; sp. — .

bivelus, Fr. P. 3—7 cm. convexo-exp. glabrous, tawny brick-red; g. adnate, bright tawny cinnamon; s. 6—7 cm. subbulbous, dingy white, peronate, ring spurious, fugacious; sp. 10 × 5—6.

bulbosus, Fr. P. 6—7 cm. campan. exp. glabrous, bay (dusky brick-red) disc subgibbous; g. adnate, opaque; s. 5—7 cm. stout, bulbous, pallid, peronate with white veil up to ring; sp. 8 × 3—4.

urbicus, Fr. P. 3—5 cm. convexo-plane, glabrous, silvery white; g. emarginate, broad; s. 4—5 cm. equal, peronate, white and downy above ring; sp. — .

licinipes, Fr. P. 4—7 cm. convex then exp. umb. glabrous, yellowish red; g. adnate, very broad; s. 8—12 cm. pallid floccose with white scales; sp. — .

microcyclus, Fr. P. 2—4 cm. thin, plano-convex, fuscous brick-red then pale; g. adnate, very broad, lilac then cinnamon; s. 3—5 cm. narrowed from base, pallid, white annular zone evident; sp. — .

Differs from *C. decipiens* in somewhat bulbous stem and white annular zone.

†† *Stem and gills violet.* Cortina usually white with a violet tinge, but universal veil white.

torvus, Fr. P. 5—12 cm. convex-exp. obtuse, bay or tinged violet at first then brick-red, hoary with fibrillose squamules then almost glabrous; g. thick, distant, very broad, purplish umber then cinnamon; s. 7—12 cm. bulbous then elongated and equal, vaginate with the white persistent veil, apex violet cortinate; sp. 12 × 7—8. Flesh usually bored by larvae.

impennis, Fr. P. 3—5 cm. fleshy, convex, obtuse, rigid, glabrous, somewhat brick-red then pale; g. thick, distant, violet, purplish, then cinnamon; s. 4—7 cm. rather bulbous, pallid, imperfect ring and apex violet, whitish cortinate, solid; sp. 10—11 × 7.

lucorum, Fr. P. 3—5 cm. even bay brick-red when moist; g. emarginate, cinnamon with a fugacious tinge of flesh-colour violet; s. 4—5 cm. clavate, very fibrillose, one colour, becoming pale; sp. 10 × 5.

plumiger, Fr. P. 4—7 cm. conico-campan. gibbous, brownish-olive, densely covered with white feathery flecks; g. crowded, broad, edge entire, coloured like rest; s. 6—9 cm. clavato-bulbous, floccose, pale; sp. 10 × 5.

scutulatus, Fr. P. 2—3 cm. ovate, exp. obtuse, purplish umber (brick-red) silky white round edge at first, then broken up into squamules; g. adnate, violet purple; s. 6—9 cm. solid, rigid, rather bulbous, outside and inside dusky violet, peronate and more or less ringed white; sp. 7 × 3.

evernius, Fr. P. 5—9 cm. conico-campan. exp. glabrous, purplish bay (brick-red and hoary) at length torn into fibrils; g. adnate, very broad, violet purple; s. 7—14 cm. cylindrical, soft, violet, obsoletely ringed from the veil; sp. 10 × 7.

quadricolor, Fr. P. 4—7 cm. conical then exp. whitish yellow (becoming tawny) edge radiato-striate; g. adnate, broad, serrate, purplish then cinnamon; s. 6—7 cm. stuffed then hollow, equal, thin, whitish violet, veil forming an oblique white zone; sp. 10—11 × 6—7.

††† *Stem and veil reddish or yellowish. Gills tawny or cinnamon, not violet nor becoming brown.*

armillatus, Fr. P. 6—9 cm. campan. exp. soon innately fibrillose and torn into squamules, reddish brick-colour; g. very broad,

distant; s. 8—12 cm. solid, bulbous, rufescent, with two or three red zones; sp. 10 × 6.

Differs from *C. hematochelis* in distant gills, and more than one red zone on stem.

haematochelis, Bull. P. 6—9 cm. gibbous, silky fibrillose, brownish brick-red (pallid); g. adnate, crowded, rather narrow; s. 8—11 cm. solid, narrowed upwards, with one red zone; sp. 10 × 7—8.

[**paragaudis**, Fr. P. campan. exp. umb. bay (tawny tan); g. adnexed, ventricose; s. elongated, twisted, pale red, peronate with adpressed fibrillose reddish squamules.

var. *praestigiosus*, Fr. P. thin, striate, silky-fibrous towards edge; s. hollow, equal, slender; g. thin, distant, tawny cinnamon.

croceofulvus, Fr. P. 4—9 cm. exp. umb. even, tawny orange; g. adnate, rusty; s. 6—9 cm. solid, equal, reddish-yellow, with a narrow orange zone; sp. 8—10 × 6. Flesh yellow.

limonius, Fr. P. 5—9 cm. convexo-plane, obtuse, glabrous, tawny (yellowish ochre), at length squamulose; g. rather distant, yellow then tawny cinnamon; s. 6—7 cm. solid, firm, floccosely squamulose, colour of p.; sp. — .

Base of s. becoming deep saffron.

[**arenarius**, Q. P. pruinose, ochraceous-fawn; g. pale fuscescent; s. rooting, fibrillosely floccose, sulphur.

helvolus, Fr. P. 4—7 cm. incurved then exp. glabrous, hygr. tawny-rusty then cracked umbo obtuse, vanishing; g. very broad, thick; s. 10—18 cm. attenuated, veil silky, almost smooth, peronate, terminated by a rusty edged annular zone; sp. 6 × 5.

hinnuleus, Fr. P. 3—5 cm. thin, conico-campan. exp. subumb. glabrous, pallid tawny-cinnamon (somewhat tawny); g. distant, broad, quite entire, tawny cinnamon; s. 6—9 cm. rigid, somewhat tawny, narrowed below, white silky veil almost smooth forming a pallid zone at apex; sp. 10—12 × 7—8.

gentilis, Fr. P. 1·5—2·5, conico-exp. acutely umb. even, glabrous then cracked, tawny cinnamon (yellow); g. adnate, thick, very distant, entire, edge coloured like rest; s. 6—9 cm. slender, equal, scaly, tawny cinnamon, scales and oblique ring, yellow; sp. 7—8 × 6.

helvelloides, Fr. P. 1·5—2·5, thin, subconvex, obsoletely umb. rusty (tawny then pale), then cracked; g. adnate, violet-umber then cinnamon, edge floccose, white; s. 4—7 cm. slender, undulate, silky fibrillose, with the imperfect ring and veil yellowish; sp. 7 × 5.

rubellus, Cke. P. 4—7 cm. campan. then exp. rufous orange umbo darkest, flesh reddish-ochre; g. adnate, sinuate, bright rusty-red; s. 6—9 cm. pale above, dark below, with darker concentric bands; sp. 8 × 5.

†††† *Stem fuscescent, veil fuscous or dingy, gills dusky.* [Species of *Inoloma* and *Dermocybe* are often peronately ringed, but the pileus is not hygr. and scaly or silky at first.]

bovinus, Fr. P. 6—11 cm. convexo-plane, even, glabrous, watery cinnamon (somewhat tawny); g. very broad; s. 6—7 cm. stout, spongily bulbous, greyish then fuscous-cinnamon, whitish above fuscous zone; sp. — .

nitrosus, Cke. Stinking. P. 4—7 cm. obtuse, exp. edge wavy, fawn or tawny, disc darker, soon breaking up into darker, minute concentric scales; g. violet then dilute cinnamon; s. 4—7 cm. equal, ochre, base darker, with dark concentric squamules; sp. 12 × 4.

brunneus, Fr. P. 6—9 cm. campan.-exp. umber (reddish tan dingy), naked, broken up into innate fibrils near edge, umbo fleshy, obtuse; g. adnate, thick, distant, purplish then umber-cinnamon; s. 7—9 cm. narrowed upwards, elastic, fuscescent, white-striate, veil forming a brownish white zone; sp. 10—12 × 6.

[**disjungendus**, Karst. P. convex, gibbous, even, glabrous, tawny umber, white-striate; g. adnate at first, distant; s. solid, equal, base thickened and radiating, dingy, curved; sp. 10—17 × 5—6.

injucundus, Weinm. P. 6—9 cm. compact, convexo-plane, obtuse, fuscous-cinnamon, fibrillose; g. very broad, lilac then tan; s. 6—9 cm. solid, clavate, colour of p. then tawny-yellow, fibrils and veil fuscous; sp. 10 × 5.

brunneofulvus, Fr. P. 4—5 cm. thin, campan. exp. subumb. even, innately fibrillose, virgate, tawny cinnamon, edge at first white-fibrillose; g. adnate, very broad, opaque; s. 6—9 cm. narrowed from base, fibrillosely striate, fuscescent, at length pale tawny outside and inside; sp. — .

glandicolor, Fr. Entirely umber. P. 1·5—2·5 cm. exp. umb. hoary-fuscous when dry; g. adnate, broad, distant, entire; s. 7—11 cm. equal, slender, straight, veil forming a distant white zone; sp. — .

var. *curta*, Fr. S. 2—3 cm. long, wavy, peronate with white veil, cingulate, umbo blackish.

punctatus, Fr. P. 1·5—2·5 cm. thin, conico-convex, glabrous, hoary-umber (tan), at length even; g. adnate, very distant, entire, brownish-cinnamon; s. 4—7 cm. slender, undulate, fibrillosely striate, brownish-yellow, a zone formed by the fugacious pale fuscous veil; sp. 7 × 4.

** LEPTOPHYLLI. *Gills narrow, thin, more or less crowded. Pileus thin. Stem somewhat cartilaginous and rigid outside, stuffed or hollow, often narrowed below.*

† *Stem whitish or pallid, floccosely scaly.*

triformis, Fr. P. 4—9 cm. convexo-plane, subumb. hygr. opaque, almost glabrous, yellow-brown; g. subadnate; s. 6—7 cm. clavate, almost glabrous, pallid, ring white; sp. 10 × 6.

var. *melleopallens*, Fr. P. dingy honey-colour; s. yellowish then pallid, becoming hollow, ring interwoven.

var. *fuscopallens*, Fr. P. umb. fuscescent then pallid; g. narrow, watery white.

biformis, Fr. P. 3—7 cm. conico-campan. exp. glabrous, shining, rusty bay, umbo fleshy, prominent; g. adnate, crenulate; s. 5—9 cm. base narrowed, fibrillosely striate, pale, ring oblique, white; sp. — .

[**fallax**, Q. P. thin, becoming pallid; g. pallid then ochre; s. wavy, slender, pallid, apex blue, ring white, fugacious.

[**Lindgrenii**, Fr. P. exp. obtuse, glabrous, rusty (ochre-tan), then wavy; g. crowded, watery cinnamon; s. short, adpressedly silky, whitish, ring subapical, reflexed.

†† *Stem violet.*

periscelis, Fr. P. 3—5 cm. campan. then convex, lilac, white-silky, umbo fleshy, rest very thin; g. adnate, crowded, narrow; s. 7—9 cm. fibrillose, colour of p. interwoven brownish veil subannulate; sp. 7—8 × 4—5.

Usually several imperfect brownish rings on s.

[**bibulus**, Q. Greyish-lilac; p. ellipsoid, moist, fibrillosely silky; g. dusky violet; s. slender, covered with curled white flecks.

flexipes, Fr. P. 1·5—2·5 cm. conical then exp. acutely umb. violet then brownish cinnamon (reddish tan) fibrillosely hoary; g. adnate, broad, umber-violet then tan; s. 7—9 cm. wavy, subundulate, fibrillosely scaly, apex violet, veil white, subannulate; sp. — .

flabellus, Fr. Smell strong, like radishes. P. 2—3 cm. conical, exp. obtusely umb. fuscous-olive (tan) hoary fibrillose; g. adnate, connected by veins, linear, olive then rusty; s. 6—9 cm. wavy, floccosely scaly pallid, scales and ring white; sp. — .

††† *Stem and pileus tawny or rusty.*

psammocephalus, Fr. Every part tawny cinnamon, inside also; p. 2—3 cm. convexo-exp. then umb. scurfily-scaly; g. adnate, arcuate, crowded; s. 3—4 cm. narrowed, squamulosely peronate from the contiguous veil; sp. 6 × 4.

incisus, Fr. P. 1—2 cm. conico-convex, exp. umb. naked but soon innately fibrillosely scaly, hygr. rusty (tawny); g. adnate; s.

2—3 cm. equal, fibroso-fibrillose, rusty, ring of white veil almost obsolete; sp. 5 × 3.

iliopodius, Fr. P. 3—5 cm. convex, subumb. silkily hoary then almost glabrous, reddish yellow (tan), at length rimose; g. adnate; s. 6—9 cm. equal, thin tawny (inside and outside), peronate with even pallid veil, naked and fibrillose above ring; sp. 7—8 × 4.

†††† *Stem floccosely scaly, and like pileus fuscescent.*

hemitrichus, Fr. P. 4—7 cm. convex then plane, umb. fuscous (fuscous tan), silky towards the margin with white curled fibrils; g. adnate, crowded; s. 3—4 cm. hollow, subequal, pale fuscous, veil white, floccose, as also is ring; sp. 6—7 × 3—4.

stemmatus, Fr. P. 2—3 cm. convex, exp. obtuse, bay, hoary-silky near the edge, fibrillose and pale when dry; g. adnate, crowded, bay; s. 5—7 cm. floccosely scaly, subannulate, rusty-bay; sp. — .

Differs from *C. uraceus* in squamulose s.

rigidus, Fr. Strong scented. P. 1—3 cm. conico-convex, umb. glabrous, shining, bay (reddish); g. adnate, broad; s. 5—9 cm. equal, wavy, paler than p., veil white-squamulose, cingulate; sp. — .

paleaceus, Fr. P. 2—3 cm. conico-exp. umb. rather fuscous (tan), silky with white downy squamules; g. adnate, truly crowded, whitish then tan; s. 5—7 cm. wavy, undulate, whitish-squamulose, apex with whitish ring; sp. 7—8 × 3.

iris, Massee. P. 2—3 cm. hemispher. then exp. acutely umb. pale brown-ochre, silky, white-fibrillose; g. much cut out behind, orange-brown, edge entire; s. 5—7 cm. conical, solid, orange-brown and squamulose below ring, smooth and violet at first above ring; sp. 10 × 5.

VI. Hydrocybe.

Pileus glabrous or covered with superficial white fibrils, not viscid but moist when growing, discoloured when dry; flesh very thin, splitting, disc rarely compact. Stem rather rigid, not peronate; veil thin, fibrillose, rarely collapsing and forming an irreg. zone.

* Firmiores. *Pileus rather fleshy, convex then campan.-convex, expanded, obtuse or at length gibbous, edge at first incurved. Stem generally narrowed upwards.*

(Colour when dry given in brackets.)

† *Stem and veil white.*

firmus, Fr. P. 6—7 cm. exp. obtuse, glabrous, rusty ochre, flesh compact, white; g. crowded; s. 6—8 cm. solid, stout, rather bulbous, white, veil rusty; sp. — .

Differs from *C. subferrugineus* by clear colour of p. and white s.

subferrugineus, Fr. P. 5—7 cm. exp. yellowish brick-red becoming rusty, subhygr.; g. scarcely crowded, broad, opaque, rusty; s. 6—8 cm. solid, spongy, rigid outside, subbulbous, white then dingy; sp. 8—10 × 5·—6.

armeniacus, Fr. P. 4—9 cm. exp. gibbous, glabrous, tawny cinnamon (yellowish tan), shining; g. adnate, crowded; s. 5—7 cm. conical, rigid, subperonate, white; sp. 8—9 × 5.

var. *falsarius*, Fr. P. yellow, white when dry.

[**umbilicatus**, Karst. P. convexo-plane, minutely umbil. undulate, obtuse, even, glabrous, brown-bay; g. very broad, cinnamon; s. equal, base thickened, whitish; sp. 6—6·5 × 4—4·5.

damascenus, Fr. P. 5—7 cm. thin, exp. bay-cinnamon (brick-red, rivulose); g. adnate, crowded; s. 5—7 cm. solid, firm, cylindrical, whitish; 12 × 6.

privignus, Fr. P. 4—5 cm. exp. gibbous, glabrous, pallid fuscous, silvery-hoary (tan then pallid); g. adnate, serrate; s. 6—7 cm. fragile, silvery white; sp. 8 × 5.

duracinus, Fr. P. 3—6 cm. rigid, exp. gibbous, watery brick-red (tan, opaque), edge strongly incurved, silky; g. adnate, thin; s. 3—5 cm. rigid, unequal, rooting, glabrous, white; sp. 5 × 3.

[**candelaris**, Fr. P. conico-campan. obtuse, glabrous, reddish dun (tawny, shining) edge slightly incurved white-silky; g. adnato-decur.; s. rigid, yellowish white, rooting.

illuminus, Fr. P. 3—7 cm. exp. gibbous, glabrous, tawny brick-red (brick-red, tan) edge thin; g. adnate; s. 5—9 cm. partly hollow, pallid becoming rusty; sp. 11—12 × 6—7.

tortuosus, Fr. P. 3—5 cm. exp. glabrous, even, shining, rusty bay (brick-red); g. adnate, tawny blood-red or purplish when touched; s. somewhat twisted, silvery; sp. 15—16 × 8.

dilutus, Fr. P. 4—5 cm. exp. subumb. glabrous, even, opaque, reddish dun (tan); g. broad, crowded; s. 4—7 cm. soft, pallid, base thickened; sp. 6 × 4.

[**erugatus**, Weinm. P. exp. subumb. even, nearly glabrous, shining, ochraceous, brick-red; g. subadnate, crowded; s. elongated, thinner upwards, fibrillosely striate, pallid.

[**Hoeftii**, Fr. P. exp. obtuse, watery brick-red (tan, opaque), with a silky bloom; g. adnate, crowded, connected by veins; s. subfistulose, equal, silvery.

†† *Stem and gills usually violet.* In certain sp. of preceding section there is an ephemeral tinge of violet at apex of stem.

[**livor**, Fr. P. exp. obtuse, glabrous, dusky olive then tan; g. emarginate, crowded, broad, semicircular, watery cinnamon; s. narrowed from sub-bulbous base, short, violet; sp. — .

saturninus, Fr. P. 4—7 cm. campan. exp. glabrous, moist, dusky bay (brick-red), with white silky veil round edge; g. adnexed,

crowded, purplish then rusty; s. 4—7 cm. violet, base thickened; sp. — .

imbutus, Fr. P. 5—9 cm. convex, obtuse, glabrous, gilvous becoming pale, edge subfibrillose; g. adnate, rather distant, broad, greyish-violet then cinnamon; s. 4—7 cm. whitish, apex violet; sp. 7—8 × 4—5.

[**cypriacus**, Fr. P. almost membranaceous, campan. exp. gibbous, glabrous, cinnamon (tawny); g. crowded; s. colour of p., striate with adpr. fibrils.

[**plumbosus**, Fr. P. convex, plane, umb. moist, blackish lead-colour, then paler and with satiny sheen near edge; g. olive-violet then cinnamon; s. hollow, attenuated upwards, violet then pallid.

[**sciophyllus**, Fr. P. thin, convex, exp. deep bluish fuscous (bluish), silky-white round edge at first; g. adnate, dusky umber; s. solid, violet, narrowed from thickened base.

castaneus, Bull. P. 2—3 cm. campan. exp. gibbous, even, chestnut (shining); g. violet then rusty; s. 2—3 cm. cartilaginous, violet or pallid reddish, stuffed then hollow; sp. — .

bicolor, Cke. P. 3—5 cm. campan. exp. umb. dingy white or tinged lilac; g. adnate, purplish violet then tan; s. 4—5 cm. pale violet then pale, solid; sp. 12—14 × 6—7.

balaustinus, Fr. P. 3—5 cm. exp. obtuse, virgate, rusty rufous (tawny brick-red, shining); g. adnate, broad rusty rufous; s. 5—7 cm. conical, pallid, then rusty outside and in; sp. 8 × 4—5.

colus, Fr. P. 2—4 cm. convex, subgibbous, glabrous, rufous brown (paler and shining); g. adnate, dusky cinnamon; s. 7—9 cm. fibrillosely striate with fiery-saffron mycelium; sp. 9 × 4.

isabellinus, Fr. P. 4—5 cm. subumb. honey-colour, glabrous (yellowish and shining); g. adnate, yellow then tan; s. 7—9 cm. rigid, striate, yellowish; sp. 10 × 5.

renidens, Fr. P. 2—5 cm. exp. even, glabrous, shining, tawny (ochre); g. crowded, tawny; s. 2—4 cm. equal and with fibrous veil, yellow; sp. 8—10 × 5.

angulosus, Fr. P. 4—7 cm. exp. wavy, hygr. reddish tawny (ochre, opaque); g. adnate, thickish, distant, tawny; s. 3—4 cm. equal, twisted, rather tawny; sp. — .

var. *gracilescens*, Fr. S. hollow, slender, tortuous, base rather narrowed.

[**zinziberatus**, Fr. P. exp. umb. tawny honey-colour (yellowish), edge silky-fibrillose; g. adnate, quite entire, crisped; s. outside and base also inside, yellowish.

†††*Stem fuscescent, veil pallid-dingy or white (not yellow); gills dusky.*

uraceus, Fr. P. 2—4 cm. campan.-convex, subgibbous, even, glabrous, umber (tan, torn into fibres); g. adnate, bay brown; s. 5—9 cm. blackish fuscous, apex becoming olive; sp. 8—9 × 4.

jubarinus, Fr. P. 2—5 cm. campan. exp. glabrous, bright tawny cinnamon (shining); g. adnate, tawny cinnamon; s. 4—5 cm. fibrillosely striate, tawny, veil fugacious, white; sp. 10 × 5.

Closely resembling *C. cinnamomeus*, differing in white fibrillose fugacious veil.

[**rubricosus**, Fr. P. exp. umb. brownish bay (brick-red, shining); g. obtusely adnate, bright rusty; s. narrowed downwards, brownish, white veil collapsing and forming a silky zone.

[**nitens**, Karst. P. exp. umb. white-silky from veil then glabrous and shining, brownish bay; g. tawny cinnamon; s. subequal, fuscous, white veil forming oblique bands; sp. 6 × 3·5.

[**irregularis**, Fr. P. exp. umb. wavy, fuscous brown (tawny rusty, shining); g. decur. closely crowded, rusty; s. naked, brick-red with white striae.

pateriformis, Fr. P. 2—3 cm. plano-depr. obtuse, orbicular, chestnut brown with white deciduous fibrils; g. brick-red; s. hollow, equal, tinged fuscous; sp. — — —.

[**phaeophyllus**, Karst. P. convex exp. umb. entirely even, edge silky, glabrous, watery cinnamon, ochre and shining when dry; g. adnate, brown-tan, edge honey-colour; s. equal, usually wavy, silky-fibrillose, pallid-white; sp. 7—9 × 4—5.

unimodus, Britz. P. 2—3 cm. campan. then exp. usually depr. round umbo, shining, rufous brown; g. adnexed, brown; s. 4—7 cm. fibrous, brown below; sp. 10—12 × 6.

** TENUIORES. *Pileus submembranaceous, conical then exp. umbo acute, rarely obtuse or nearly obsolete, edge at first straight.*

† *Stem white.*

dolabratus, Fr. P. 4—9 cm. campan. exp. obtuse, glabrous, brick-red (even and tan), silky near the edge; g. adnate, very broad, distant, tan; s. 8—14 cm. stout, cylindrical, shining white; sp. 12—14 × 7—8.

Smell very disagreeable.

rigens, Fr. P. 3—7 cm. conical then convex, obtuse, glabrous, opaque, tan (whitish tan); g. adnato-subdecur.; s. 4—9 cm. cartilaginous, rigid, rooting, white; sp. 6—7 × 4.

[**fulvescens**, Fr. P. exp. shining, cinnamon (brick-red), at length fibrillose, umbo persistent rather acute; g. adnate; s. attenuated, soft, rather wavy, becoming pale.

Krombholzii, Fr. P. 3—5 cm. conico-campan. then gibbous, even, glabrous, tan, edge append.; g. nearly free, broad, rusty edge yellowish; s. 6—11 cm. equal, naked, white; sp. 8 × 4—5.

Reedii, Berk. P. 2—3 cm. conical then exp. and strongly umb. shining, persistently brown; g. free; s. 2—3 cm. equal, rather bulbous, white, solid; sp. 7—8 × 4.

leucopus, Bull. P. 1·5—2·5 cm. conical then exp. and umb. even, glabrous, yellowish red (clay-colour, shining); g. subadnexed, crowded; s. 2—3 cm. equal, shining white; sp. 6 × 3—4.

Differs from *C. plurius* in not being viscid.

scandens, Fr. P. 1—2 cm. conical, exp. tawny rusty to watery honey-colour (clay-colour), umbo fleshy, edge striate; g. adnate, tawny cinnamon, edge same colour; s. 5—8 cm. wavy, even, apex thickened, base attenuated, whitish; sp. 10 × 5.

†† *Stem somewhat violet or reddish.*

erythrinus, Fr. P. 2—4 cm. conical, exp. rufous bay, prominent umbo darker; g. adnexed; s. 3—5 cm. equal, somewhat curved, violet above; sp. — .

var. *argyropus*. Slenderer than type; stem silvery, apex mealy.

decipiens, Fr. P. 2—3 cm. conical, glabrous, shining, fuscous-bay, depr. round darker umbo (brick-red); g. adnate; s. equal, slender, with a pale separable cuticle; sp. 8 × 5.

S. usually without any violet, pale red inside.

var. *insignis*, Fr. P. paler; s. flexuous, glabrous.

germanus, Fr. Smell strong. P. 1—2 cm. conico-exp. obtusely umb. rather silky, fragile, fuscescent (clay-colour); g. adnate, broad; s. thin, equal, glabrous, lilac then pallid; sp. — .

ianthipes, Secr. P. conical then exp. umb. fibrillose, shining, brown, edge yellowish; g. white then greyish olive; s. shining, violet, rufous below.

††† *Stem yellowish, usually becoming pale.*

detonsus, Fr. P. 2—4 cm. conical, exp. subumb. glabrous, brick-red or yellowish (tan and silky); g. adnate, yellowish then brick-red, quite entire; s. 4—7 cm. glabrous, tinged yellow then pallid; sp. 6 × 4.

saniosus, Fr. P. conical then convex and umb. not striate, glabrous, tawny fuscous (tawny, shining), edge fibrillosely torn; g. adnate, quite entire; s. curved, yellowish, veil fibrillose, yellow.

obtusus, Fr. P. 1—3 cm. conico-campan. striate to middle, shining, reddish yellow (ochre then pallid, opaque, fibrillosely torn); g. adnato-ventricose, edge white-fimbriate; s. hollow, soft, ventricose, becoming pale, 4—9 cm.; sp. 9 × 5.

acutus, Fr. P. 1·5—2 cm. conical, acutely umb. entirely striate, yellowish red (clay-colour, silky then even); g. adnate, ochre, entire; s. 6—8 cm. equal, slender, wavy, pale; sp. 6 × 4.

†††† *Stem becoming fuscescent.*

Junghuhnii, Fr. P. 2—3 cm. conical, exp. papillate, persistently minutely velvety with thin innate white fibrils, shining cinnamon (somewhat tawny); g. adnate, orange brick-red; s. 4—7 cm. shining, adpressedly fuscous-fibrillose; sp. 8 × 5—6.

depressus, Fr. P. 4—5 cm. conico-convex, umb. glabrous, at first superficially silky near striate edge, fuscous then rusty; g. adnate, saffron then yellowish; s. hollow, reddish, base fuscous, white-silky; sp. — .

milvinus, Fr. Strong scented. P. conico-exp. subumb. striate to disc, somewhat olive (tan then pallid), edge crowned with white innate squamules; g. adnate, rusty olive, base veined; s. 4—5 cm. equal, curved, fuscous then pallid, spotted with the white silky veil; sp. 8—10 × 4.

fasciatus, Fr. P. 1—2 cm. conico-exp. glabrous, fuscescent (brick-red then pallid and silky) umbo acute, blackish; g. adnate, distant; s. 4—9 cm. rather wavy, glabrous, fibrously splitting, pallid fuscous; sp. 8 × 5.

Differs from *C. acutus* in very distant g.

CREPIDOTUS, Fr.

palmatus, Bull. P. 4—9 cm. compact, convex then exp. irreg. glabrous, pelliculose, rusty; g. fixed to a collar, colour of p.; s. excentric or lateral, incurved, glabrous, whitish; sp. subg. 10.

Differs from *Pleurotus subpalmatus* in rusty sp.

A form with a central s. occurs.

[**hypsophilus**, R. Fries. Subcaespitose. P. fleshy, compact, irreg. laterally produced, entire, convex then plane, edge becoming upturned, glabrous, fuscous tan; g. emarginate, crowded, dingy yellow; s. very excentric, short, curved whitish.

[**nidulans**, Mass. (= *Pleurotus nidulans*, Fr., *Crepidotus junquillea* (Paulet) Lucand.) P. fleshy, at first resupinate then expanded, sessile, subreniform, tomentose, yellow; g. broad, rather distant, tawny-orange; sp. tawny.

alveolus, Lasch. P. 2—4 cm. soft, lateral, obovate, wavy, plane, glabrous, ochre-fuscous, sessile or produced behind into a short stem-like downy base; g. broad; sp. 7—8 long.

[**stiriacus**, Wetts. P. fleshy-fibrous, ovate-shell-shaped, semi-orbicular, or cuneiform, simple, lobed or partite, tomentose; g. dense, ochre-fuscous; s. lateral, very short; sp. 5—7 × 3.

mollis, Fr. P. 3—7 cm. gelatinously fleshy, soft, obovate or reniform, flaccid, subsessile, glabrous, pallid then greyish; g. decur. from base, crowded, linear, whitish then watery cinnamon; sp. 8—9 × 5—6.

putrigenus, B. and C. Imbricate, sessile; p. 2—3 cm. subreniform, whitish, tomentose; g. broad, rusty-brown; sp. subglobose, 6—7, rusty.

applanatus, Fr. P. 2—5 cm. soft, fragile, plane, reniform or cuneate, whitish, produced behind into a very short white-downy base; g. determinate, crowded, whitish then pale cinnamon; sp. 5 × 3.

[**scalaris**, Fr. Imbricated. P. submembranaceous, very soft,

effuso-reflexed, even, glabrous, clear dilute ochre, pellucid when fresh; g. decur. from base, distant, thin, whitish then cinnamon.

calolepis, Fr. P. 1—2 cm. dimidiate, sessile and fixed by a downy nodule, white, marginate behind, variegated with minute rufescent scales; g. radiating from base, at length brownish rusty; sp. — .

haustellaris, Fr. P. 1—2 cm. flaccid, exactly lateral, reniform, plane, even, very slightly downy, tan; g. rounded behind, pallid then fuscous-cinnamon; s. distinct, narrowed upwards, downy, white; sp. — .

[**Peteauxii**, Q. P. resupinate then cup-shaped, lateral, reniform, tomentose, snow-white; g. free, whitish then ochre.

rubi, Berk. (=*Naucoria effugiens*, Q.) P. 0·5—1 cm. convexo-plane, edge incurved, pale yellowish tan, sprinkled with glistening particles; g. adnato-decur. rather broad, greyish then umber; s. 3—6 mm. incurved; sp. 5—7 long.

chimnophilus, B. and Br. P. 4—6 mm. convex, edge incurved, downy, whitish; g. attenuated behind, distant, narrow, pale tan; s. very short or obsolete; sp. $5 \times 3 \mu$.

epibryus, Fr. White. P. 3—5 mm. resupinate, sessile, adnate by the vertex, silky then smooth; g. radiating from the centre, thin, crowded, whitish then reddish-yellow; sp. — .

[**inhonestus**, Karst. P. resupinate, sessile, adnate laterally or by the vertex, rather silky, orbicular or subreniform, whitish; g. broad, thin, white then brownish; sp. $6—8 \times 5$.

Phillipsii, B. and Br. P. 4—6 cm. rather fleshy, oblique, striate, smooth, pale umber; g. narrow, ventricose, slightly adnate, pale tan; s. short, solid, incurved; sp. $5—7 \times 2·5 \mu$.

pezizoides, Nees. P. 3—4 mm. sessile, thin, cup-shaped then recurved, mealy, subtomentose, whitish; g. radiating from the centre, rather distant, brownish-olive then tawny.

luteolus, Lamb. P. thin, stipitate at first then resupinate and stem disappearing, tomentose, clear yellow then pale; g. crowded, orange-yellow then cinnamon; sp. rusty.

Ralfsii, B. and Br. P. 3—5 cm. convex, edge incurved, delicately hispid or scurfy, yellow, fixed by cottony mycelium, stem obsolete; g. rather broad, ventricose, pale tan, edge whitish; sp. — .

Parisotii, Pat. Minute. P. sessile, minutely velvety, bright citrin, stem almost obsolete, white, downy, edge incurved; g. very distant, reddish; sp. $4—5 \times 2$.

Only appears to differ from *C. luteolus* in being somewhat smaller.

[**subintiger**, Schulz. P. thin, cylindrical then cyphelliform, fixed by centre, orbicular-reniform, whitish, slightly tomentose; g. radiating from centre, free, distant, ventricose, yellowish brown, edge wavy and fimbriate; sp. 3—4 long.

[**pallescens**, Q. P. umbil. downy, yellowish white; g. adnate, white then pallid; s. short incurved, downy, white; sp. 7 long.

[**scutellinus**, Q. P. convexo-plane, vertex minutely mucronate, pellucid, rivulosely striate, whitish then ochre; s. filiform, arcuate, short, downy, colour of p.; g. narrow, adnate, denticulate, white then pale ochre; sp. 7 long.

[**Cesatii**, Rab. P. sessile, resupinate, rather tough, soft, whitish or pallid gilvous; g. broad, pallid; sp. pale yellow; sp. 6—7 × 4—6.

Habit of *Claudopus variabilis*, but p. not tomentose, g. not reddish, and pale sp.

[**proboscideus**, Fr. P. resupinate, campan. vertex prominent, pedunculate, even, pubescent, ochraceous; g. radiating from an excentric point, thin, straight, colour of p.

Must be carefully distinguished from *Pax. panuoides.*

epigaeus, Pers. P. 1—2 cm. thin, reniform or flabellate, reddish-grey, base downy, whitish; g. distinct, narrow, diverging, watery rufescent; sp. 10 × 7.

Entire fungus soft and watery; growing on naked damp earth.

MELANOSPORAE.

A. *Gills free from stem.*

Chitonia. Volva present, ring absent.
Agaricus. (= *Psalliota*, Fr.) Ring present, volva absent.
Pilosace. Volva and ring both absent.

B. *Gills attached to stem.* (Quite free from stem in some species of *Coprinus.*)

† *Stem with a distinct membranous ring.*

Stropharia. Gills adnate dark brown or purplish.
Anellaria. Gills adnexed, grey and clouded with the black spores.

†† *Ring very imperfect or absent; gills decurrent.*

Gomphidius. Gills subgelatinous.

††† *Gills not decurrent, not adhering laterally when young, not deliquescent.*

Hypholoma. Gills sinuate, dark brown or blackish-purple; veil often hanging in fragments from edge of pileus.
Panaeolus. Edge of pileus extending beyond the gills, pileus not striate.
Psathyrella. Pileus sulcate or striate.

Psathyra. Stem fragile; edge of pileus straight when young.
Psilocybe. Stem tough; edge of pileus incurved when young.

†††† *Gills adhering laterally when young, deliquescing at maturity.*

Coprinus. Ring and volva present in some species, ring alone others, both absent in others; gills adnate, adnexed or free.

††††† *Flesh of pileus entirely absent, the gills radiating from the stem free and unconnected by flesh above.*

Montagnites. Volva present, buried in the ground.

CHITONIA, Fr.

rubriceps, Cke. and Mass. P. 2—3 cm. campan. then exp. umb. reddish-brown; g. free, purplish-brown; s. 6—7 cm. hollow, paler than p., volva large, free edge torn; sp. 12 × 6.

Introduced along with living plants into Kew Gardens.

[**coprinus**, Fr. (= *Ag. involucratus*, Mont.) P. fleshy, convex, viscid, yellowish, sometimes floccosely scaly from fragments of volva; g. free, smoky-black; s. fistulose, naked, whitish, volva very small.

Unless the small volva is noticed, this fungus will be considered as a sp. of *Coprinus*.

AGARICUS, L.

A. Edules. *Large, fleshy.*

augustus, Fr. P. 8—14 cm. globose then exp. very obtuse, disc even, rest fibrillosely-scaly, pale yellow-brown; g. crowded, narrow, fuscous, remote from stem; s. 8—14 cm. solid, ring superior, large, areolately squamulose below; sp. 6 × 3·5. Edible.

peronatus, Mass. P. hemispher. then exp. dull ochre, densely scaly; g. distant from stem, crowded, purple-brown; s. 10—14 cm. equal, marginately bulbous, hollow, with large spreading white scales up to broad spreading ring; sp. 6 × 4. Edible.

Differs from *A. augustus* in hollow, peronate stem.

elvensis, B. and Br. P. 9—15 cm. subglobose then exp. fibrillose, broken up into large persistent brown scales, edge warted; g. crowded; s. 8—12 cm. narrowed at base, fibrillose, ring large, thick, warted below; sp. 8 × 4. Edible.

[**praenitens**, Beck. P. hemispher. exp. white, with densely imbricated chestnut scales which become smaller and denser at disc; g. remote, purple-brown, edge white; s. clavato-bulbous, concentrically scaly up to large ring, white; sp. 7—8 × 5.

arvensis, Schaeff. P. 10—24 cm. conico-campan. then exp. smooth, even, white often stained yellow, flesh white, unchangeable; g. close to stem, narrow; s. 6—12 cm. hollow, whitish, floccosely stuffed, ring pendulous, double, exterior radiately split; sp. 6 × 4. (9—11 × 6 Sacc.) Edible.

var. *purpurascens*, Cke. Smaller than type. P. tinged purple.

Differs from *Ag. xanthodermus* in the persistently white flesh.

xanthodermus, Genev. (= *Ag. flavescens*, Roze.) P. 6—10 cm. fleshy, convex, even, glabrous, greyish-white, cuticle becoming yellowish when touched, and the white flesh changing to yellow when broken; g. free, sinuate, pale rose then grey, finally purple-brown; s. cylindrical, stuffed, ring thin, flesh deep yellow at base, rest white; sp. — .

Differs from *A. arvensis* in flesh becoming yellow, and in yellow base of stem.

[**ammophilus**, Ménier. P. convex, exp. thick, whitish; g. free, crowded, rosy; s. stout, solid, base more or less thickened, whitish, ring membranous, strongly adherent to apex of s. slightly striate, with a circular canal; sp. 6—7·5 × 4—7.

cretaceus, Fr. P. 6—9 cm. globose then convex, shining white, at first smooth and silky, then fibrillosely squamulose; g. for a long time white, then blackish-brown; s. 6—8 cm. white, hollow, ring large, superior, fixed; sp. 9 × 6. Edible.

pratensis, Schaeff. P. 4—7 cm. ovoid then exp. even or squamulose, greyish-white; g. rounded behind, grey then brown; s. 4—6 cm. stuffed, base thickened, naked, ring median, simple, deciduous; sp. 6 × 3·5.

var. *fulvellus*, Lasch. P. squamuloso-fibrillose, yellowish or reddish; s. hollow, yellowish; g. tawny-denticulate.

[**Bernardii**, Q. Compact, white, tomentose under a lens. P. 10—20 cm. convex then exp. cracked into areolae, greyish-white; s. solid, stout, ovate, striate at the apex, ring membranous, striate above; g. free, greyish-pink then bay-brown; flesh white, becoming purplish then brownish when broken; sp. subgl. 8.

Foetid. Edible.

campestris, L. 6—12 cm. convex then plane, floccosely silky or fibrillose, whitish, flesh reddish-brown when cut; g. close to stem, subliquescent, fleshy then umber; s. stuffed, even, white, ring median, torn; sp. 7—8 × 5—6. Edible.

var. *alba*, Berk. P. rather silky white; s. short.

var. *praticola*, Vitt. P. with rufous scales, flesh reddish.

var. *rufescens*, Berk. P. rufous, minutely scaly; s. elongated.

var. *umbrina*, Vitt. P. even, umber; s. stout, squamulose.

var. *fulvaster*, Viv. P. even, ochraceous-tawny; s. solid; g. rosy then blackish.

var. *villaticus*, Brond. P. cortex breaking up into scales; s. peronately scaly up to inf. ring.

var. *silvicola*, Vitt. P. almost smooth, white, shining; s. stuffed, elongated, subbulbous, ring simple, flesh not changing colour.

var. *robustissimus*, Pen. P. equal, large, 32 cm.; g. very broad, up to 2 cm.; s. tall, 13 cm. high, 6 cm. thick.

var. *exsertus*, Viv. P. fleshy, almost even, glabrous, white, flesh red; s. hollow, slender, rather wavy, smooth ring small and torn, appendiculate.

var. *hortensis*, Cke. P. fibrillose or squamulose, brownish. The variety commonly cultivated in England.

var. *costatus*, Viv. P. sulcate, wavy.

var. *vaporarius*, Otto. P. and s. with a brown pilose covering.

var. *exannulatus*, Cke. P. squamulose; s. elongated, equal, solid, ring evanescent or obsolete.

perrera, Schulz. (= *Psal. Bresadolae*, Schulz.) P. 8—10 cm. hemispher. then exp. yellowish, centre tawny, covered with concentrically arranged tawny scales; g. remote, crowded, joined in a ring behind, rosy then fuscous; s. equal, 9—10 cm. stuffed then hollow, base submarginately bulbous, with evanescent tawny scales below the large superior ring; sp. 8—10 × 5.

[**bitorquis**, Q. P. 5—9 cm. globose then exp. almost glabrous, milk-white then cream or ochre at the edge; g. remote from s. becoming deep brown; s. solid, ovoid, glabrous, white, with a membranous ring near the apex and a volva-like ring near the base, separated by a concave notch; sp. 5—6 long. Edible.

[**flavescens**, Gillet. P. globose then convex, dry, satiny, white, soon tinged yellow or reddish-yellow; g. broad, brown; stem with a turbinate bulb, white, suffused with reddish-yellow; flesh white, ring fugacious; sp. 8 × 4.

silvaticus, Schaeff. P. 6—9 cm. thin, campan. then exp. gibbous, fibrillose or squamulose, centre brownish becoming paler at edge; g. crowded, dry; s. 8—12 cm. hollow, equal, whitish, ring simple, distant; sp. 7 × 4.

haemorrhoidarius, Kalchbr. P. 7—12 cm. ovate then exp. rufous-brown, covered with broad adpressed scales, edge at first incurved, flesh deep red when broken; g. crowded, purple-umber; s. 8—11 cm. white, soon hollow, fibrillose base solid, subbulbous, stains red when bruised, ring superior, large; sp. 7—8 × 5. Edible.

[**sanguinarius**, Karst. Flesh blood-red when broken. P. campan. exp. obtuse, usually wavy, even, pale fuscous, broken up into squamules; g. free, crowded, white, rosy-umber; s. elongated, subequal, curved, silky-flocculose then almost glabrous, white, ring superior, pendulous, fixed, persistent, areolately-scaly outside near edge; sp. 5—7 × 3—4.

[**niveorubens**, Q. Floccose, shining white, everywhere becoming red.

Quélet now considers this to be a form of *Ag. sylvatica*, Schaeff., to which sp. he also refers *Ag. setigera*, Paul., *Ag. haemorrhoidaria*, Kalchb., *Ag. rubella*, Gill., and *Ag. Vaillantii*, Roze and Rich.

setiger, Fr. P. exp. obtuse, smooth and silky, pale umber; g. umber; s. stuffed, elongated, equal, squamuloso-fibrillose, colour of p., ring thin, fugacious.

[**rubellus**, Gillet. P. exp. obtusely umb. with reddish scales, especially at the disc, which is deep red-brown, paler towards edge; g. crowded; s. hollow, cartilaginous, base swollen; ring fugacious; flesh white.

[**lecensis**, Harz. Smells like aniseed. P. convex then almost plane, yellowish-white, often broken up into brown polygonal pyramidal patches; g. white, rosy-violet, then brown, both ends narrowed; s. solid, coarsely scaly above, white becoming tinted rosy or yellow; ring conspicuous, radiately striate, outside scaly; sp. 14—15 × 5·5—7.

[**caldarius**, Wettst. P. convex then exp. white, disc even, brownish squamulose towards edge; g. remote, narrow; s. glabrous, whitish; sp. 9—14 × 5—11.

B. Minores. *Flesh of pileus thin.*

comptulus. P. 3—4 cm. convexo-plane, adpressedly silky, white; g. flesh-colour then rosy; s. 4—6 cm. hollow, yellowish-white, ring median; sp. 4—5 × 2—3.

sagatus, Fr. P. 3—5 cm. convexo-plane, tawny, glabrous; g. ventricose, umber; s. 4—5 cm. hollow, equal, pale, ring distant, spreading; sp. 6 × 3—4.

[**amethystinus**, Q. P. 3—4 cm. convex then plane, umb. downy or fibrillose, white with the centre rose, lilac or amethyst; g. free, ventricose, clear grey then bay-brown; s. slender, with a silky pith, somewhat bulbous, fragile, glabrous, white, with a satiny, white ring; sp. 6—7 long.

[**semotus**, Fr. P. exp. even, glabrous, brick-red, disc darker; g. rather distant from stem, pallid; s. fistulose, reddish and more or less peronate up to spreading ring, pale above; sp. 4—5 × 2—3.

[**dulcidulus**, Kalchbr. P. plane, subgibbous, almost glabrous, dry, lurid white or ochre; g. crowded, grey then blackish; s. subbulbous, colour of p., ring median, persistent.

Umbo often tinged fuscous or violet.

rusiophyllus, Lasch. P. 2—3 cm. soon plane, umbonate, silky, ruddy, becoming pale; g. crowded, rosy then brown; s. 3—4 cm. thickened downwards, white, ring persistent; sp. 5 × 3.

[**zonarius**, Brond. P. 1 cm. convex, with pellucid brown-violet zones; g. free, rosy then bay-bistre; s. solid, elongated, ring membranous, white.

[**geniculatus**, Brig. P. campan. exp. tumid, glabrous, pale bay, edge split here and there; g. free, remote from stem; s. bent, base thickened, ring inf.

Remarkable in this genus for growing on wood.

[**haematospermus**, Bull. P. campan. then exp. then umb. and scaly, brownish tan then blackish; g. rosy-blood-red then fuscous;

s. fistulose, equal, glabrous, colour of p., ring median, erect; sp. 4—5 × 3.

subgibbosus, Fr. P. 2—3 cm. convexo-plane, umb. even, glabrous but silky towards edge, yellowish; g. remote from stem, white then greyish-fuscous; s. 2—3 cm. fistulose, slender, ring fugacious.

PILOSACE, Fr.

algeriensis, Fr. P. 6—10 cm. convex then exp. even, glabrous, white then disc tinged brownish; flesh very thick, white; g. very narrow, rosy then umber; s. 3—5 cm. very stout, white, base thickened, solid; sp. subgl. 8 μ.

[**Bresadolae**, Schulz. P. very thin and very fragile, irreg. campan. then exp. and edge wavy, margin split, pale yellow-fuscous, glabrous, even; g. free, blackish-brown, edge white-mealy; s. often slightly wavy, apex abruptly contracted, white; sp. 9 × 4—5.

Many plants spring from a subterranean fleshy mass.

[**Phoenix**, Fr. P. thin, campan. exp. even, glabrous, hygr. fuscous then pale; g. free, ventricose, pallid then umber; s. stuffed, striate, subbulbous, rooting, pallid.

STROPHARIA, Fr.

A. Viscipelles. *Pellicle of pileus even or scaly, often viscid.*

* Mundi. *Not growing on dung.*

[**depilata**, Pers. P. exp. even, glabrous, viscid, yellowish-livid then tan; g. adnato-decur. broad, white then blackish; s. solid, with white revolute squarrose white scales below the ample ring; sp. 11—14 × 6—8.

Percevali, B. and Br. P. 3—5 cm. rather viscid, umb. then exp. ochre, scaly at first near edge; g. adnexed, broad distant; s. 5—7 cm. squamulose up to ring, dark inside; sp. 12—14 × 6.

S. squamosa differs in adnate, crowded g.

versicolor, With. P. 3—7 cm. convexo-plane, scaly, edge incurved; g. decur. pallid then reddish-brown; s. 5 cm. whitish then brownish, ring persistent.

A species about which little is known.

aeruginosa, Curt. P. 4—7 cm. convex then exp. subumb. or quite plane, at first with bluish-green mucus and sometimes with white squamules, then yellowish; g. adnate, purplish; s. 5—6 cm. viscid, squamulose below ring, tinged green, often quite glabrous; sp. 10 × 5.

Very variable within certain limits. Often stout and deep coloured in shady woods. Slender and soon dry in open pastures.

squamulosa, Massee (=*S. aeruginosa*; var. *squamulosa*, Mass.). P. 4—6 cm. soon plane, deep verdigris-green, dry, squamulose; g. crowded, brown; s. 5—7 cm. stout, fibrilloso-squamulose, green, ring fragmentary; sp. 8—9 × 5.

Superficially like *S. aeruginosa*, but dry and silky, innately squamulose, and brown g.

albocyanea, Desm. 1·5—2 cm. exp. umb. viscid, greenish-blue then whitish; g. purplish; s. 3—5 cm. slender, flexuous, pallid or tinged green, ring incomplete; sp. 7—8 × 3—4.

Differs from *S. Worthingtoni* in greenish p.

[**Tavastense**, Karst. P. convex then flat, disc often depr. sometimes umb. glabrous, with concentric yellowish-white squamules near edge, yellowish livid then dingy tawny tan; g. adnexed, crowded; s. straight, fragile, almost equal, solid, pale then fuscescent, ring torn, fugacious.

[**consentiens**, Karst. P. convex, exp. umb. then depr. even, glabrous, rather viscid, yellowish-livid, tinged olive, edge involute; g. adnate, paler than p.; s. subequal, stuffed, wavy, apex pruinose, yellowish rusty.

[**coprinifacies**, Roll. P. hygr. conico-campan. then exp. viscid, umber brown then pallid, with blue mucus; g. ventricose, both ends narrowed, dusky purple, edge white; s. dingy white tinged blue, ring median; sp. 20 × 7.

inuncta, Fr. P. 2—3 cm. exp. subumb. with livid purple gluten that disappears, then pale; g. adnate, pale brown; s. 4—7 cm. flexuous, white, fibrillose below distant imperfect ring; sp. 8 × 6.

coronilla, Bull. P. 3—4 cm. plane, tawny-ochre then pale, edge white flocculose; g. sinuato-adnate, violet, edge white; s. 2—3 cm. white, ring median, violet-striate; sp. 10 × 5.

ventricosa, Mass. P. 1·5—2 cm. exp. broadly gibbous, slightly viscid, tawny-ochre then paler; g. almost free, purplish; s. 5—7 cm. ventricose below middle, base rooting, pale, ring large, striate, apical; sp. 10 × 6.

[**fusoidea**, Pat. P. 1—1·5 cm. campan. then exp. and umb. edge striate, ochre; g. adnate, purplish; s. elongated, slender, smooth, strongly ventricose near the base, whitish, ring distant; sp. 12—14 × 6—7.

Differs from *S. ventricosa* in being smaller, and in the small, distant ring.

obturata, Fr. P. 2—3 cm. exp. becoming cracked into squamules, almost dry, yellow; g. adnate, purplish-umber; s. 2—3 cm. stuffed, short, narrowed downwards, white, ring tumid; sp. 7 × 4.

[**capillacea**, Gillet. P. conico-campan. very finely wrinkled, reddish brown with whitish flecks near margin more especially; g. blackish brown, edge toothed; s. whitish, squamulose, ring fugacious.

melasperma, Bull. P. 3—5 cm. convexo-plane, rather viscid, white or yellowish; g. ventricose, blackish violet; s. 3—5 cm. hollow, equal, white, ring superior, deciduous; sp. 10 × 6.

squamosa, Fr. P. 3—6 cm. exp. subviscid, yellowish-tan with evanescent concentric scales; g. adnate, blackish, edge white; s. 7—12 cm. pallid, rusty near base, squamulose up to distant ring; sp. 12 × 6.

var. *thrausta* (Ag. *thrausta*, Kalchbr.). Slender, fragile, hygr. not scaly; sp. 12—15 × 6.

var. *aurantiaca*, Cke. P. orange or brick-red.

[**albonitens**, Fr. P. thin, exp. gibbous, viscid, glabrous, hyaline-white, shining white when dry; g. adnate, crowded, pale fuscous; s. stuffed with pith, everywhere floccosely villose, pale straw when dry; sp. 6—9 × 4—5.

Worthingtoni, Fr. P. 2—3 cm. campan. viscid, yellow; g. adnate, broad, brown; s. 4—7 cm. slender, flexuous, dark blue, ring incomplete; sp. 7 × 4.

Differs from *S. albocyanea* in the yellow p.

[**palustris**, Q. P. hemispher. umb. rather viscid, hygr. greyish-tawny, disc brown; g. adnate, very broad; s. slender, white, covered with transverse tawny scales, ring distant.

** Merdarii. *Ring often incomplete.*

luteonitens, Fl. Dan. P. 2—3 cm. conico-campan. umb. viscid, yellow, edge squamulose; g. adnexed, ventricose; s. 2—3 cm. fistulose, even, pruinose above distant ring, whitish; sp. 10—11 × 6. (14 × 6—7 Sacc.)

Intermediate between *S. squamosa* and *Psilocybe coprophila*, having scaly p. and ring of former, and stature of latter.

merdaria, Fr. P. 1·5—2·5 cm. exp. obtuse, glabrous, moist, hygr. dingy yellow-brown or pale bay; g. adnate, broad; s. 2—3 cm. flocculose, dry, pallid, ring fugacious; sp. 8 × 5. (12—16 × 6—8 Sacc.)

[**mammilata**, Kalchbr. P. thin, exp. conico-papillate, even, viscid, pale ochre; g. rotundato-adnate, blackish brown; s. glabrous, white then yellowish, ring fugacious.

stercoraria, Fr. P. 2—3 cm. hemispher. then discoid, rather viscid, glabrous, yellow; g. adnate, broad, olive-black; s. 8—10 cm. stuffed with free pith, elongated, flocculose below the distant ring, rather viscid, white tinged yellow; sp. 18—20 × 8—10.

semiglobata, Batsch. P. 2—3 cm. persistently hemispher. even, glutinous, yellow; g. adnate, broad, clouded black; s. 6—10 cm. glabrous, glutinous, yellowish, ring imperfect, inferior; sp. 12 × 6.

Differs from *P. stercoraria* in persistently hemispher. p. and glabrous s.

[**siccipes**, Karst. P. hemispher. exp. obtuse, orbicular, naked, even or edge slightly pellucidly striate, viscid, whitish clay-colour; g. adnato-subdecur. clay-colour then fuscous and clouded; s. pallid, dry, straight or wavy, flocculose, pruinose above the distant, dry ring; sp. 12—15 × 7—9.

Intermediate between *S. stercoraria* and *S. semiglobata*.

[**paradoxa**, P. Henn. P. campan. papillately umb. viscid, centre brown, edge broadly revolute, even, glabrous; g. adnato-decur. wavy, veined, dusky brown; s. wavy, striate, fibrous, yellow, base white-downy, ring black, floccose, deciduous; sp. 14—17 × 7—10.

B. SPINTRIGERI. *Pileus without a pellicle, but innately fibrous, not viscid.*

[**calceata**, Schaeff. P. exp. adpressedly fibrillose, moist, stoutly umb. even, dingy yellow then pale; g. nearly free; s. solid, glabrous, white, base marginately bulbous, limb free like a volva.

[**ocreata**, Holmsk. P. globoso-campan.-exp. obtuse, granulose then imbricately scaly, red then gilvous; g. nearly free; s. peronate up to imperfect ring.

[**medusa**, Brig. P. globose then convex, even, subrimosely squamulose when dry, yellowish white, edge lobed; g. nearly free, sooty, edge crenulate; s. solid, subtuberous, fibrillose, white, ring fugacious.

caput-medusae, Fr. P. 3—5 cm. ovate, exp. lacunose, squamulose, discoid, umber-brown, edge ochre; g. adfixed; s. 5—9 cm. peronate with squarrose scales up to superior ring, scales at length falling away; sp. 10 × 4. (16—18 × 5 Sacc.)

scobinacea, Fr. P. 3—5 cm. exp. gibbous, somewhat sulcate, at first covered with crowded, blackish adpressed squamules; g. adnate, crenulate, purplish; s. 6—9 cm. hollow, fibrillose, white, apex mealy, ring superior, fugacious; sp. — .

[**sulcata**, Gill. P. conico-campan. umb. covered except at summit with branched ridges, reddish; g. distant; s. white, striate below and mealy above the ring.

[**sulcatula**, Gill. P. convex, rugosely ridged, when young with reddish superficial scales, then naked and whitish or tinged red at disc; sooty-brown, edge whitish, denticulate; s. elongated, squamulose up to ring, striate above, white, base rooting very cottony.

[**cotonea**, Q. At first entirely white. P. 5—7 cm. spherical then convex, snow-white, covered with floccose squamules; g. sinuate, white, then purple, at length brownish-purple, edge white; s. 3—6 cm. fistulose, curved, floccosely scaly, apex glabrous, ring floccose; sp. 10 long.

Quélet considers this species to be identical with *Hyph. lacrymabundum*, Fries.

Battarrae, Fr. P. hemispher. then exp., more or less olive, covered with adpressed squamules most crowded at the disc; g. sinuate, white then rosy, finally purple-brown, edge white; s. fistulose, whitish, with brownish or olive squamules up to ring, apex pruinose, ring thin, white, partly appendiculate; sp. 10 long.

[**punctulata**, Kalchbr. P. thin, convex, dry, pallid, squamulosely punctate from the veil, then naked; g. sinuato-adnate with a decur. tooth, pale umber; s. stuffed, pallid, squamulose from the veil above.

Jerdoni, B. and Br. P. 4—5 cm. exp. umbo fleshy, broad, ochraceous with snow-white evanescent flecks; g. adnate with a decur. line, transversely striate; s. 5—7 cm. snow-white and pulverulent above, brownish squamulose below, ring superior; sp. 10 × 5.

spintrigera, Fr. P. 5—9 cm. ovate then exp. obtuse, even, glabrous, brownish or pinkish tan then pale; g. adnate, crowded; s. 4—7 cm. hollow, floccosely-fibrillose, white, ring distant, fugacious; sp. — .

hypsipoda, Fr. P. 3—5 cm. convexo-plane, even, glabrous, hygr. brownish yellow; g. white then fuscous; s. 7—11 cm. hollow, equal, glabrous, whitish, ring median, persistent; sp. 12—14 × 6—7.

cothurnata, Fr. P. exp. obtuse, even, thin, white, not hygr.; g. adnexed, crowded; s. floccosely villose up to median ring, white.

ANELLARIA, Karst.

separata, Karst. P. 2—3 cm. campan. obtuse, not exp. viscid, dull ochre then pale and often rugulose; g. adfixed, greyish black; s. 6—10 cm. straight, white, base thickened, ring distant; sp. 10 × 7. (16—22 × 10—15 Sacc.)

scitula, Mass. P. 1—1·5 cm. campan. obtuse, smooth, viscid, drab or dingy ochre; g. almost free, grey; s. 2—3 cm. peronate up to inferior ring; sp. 12—13 × 4.

fimiputris, Karst. P. 2·5—4 cm. conico-exp. thin, subgibbous, viscid, dusky grey, paler when dry; g. adfixed, livid blackish; s. 6—10 cm. pallid, slender, equal, pallid, with ring reduced to a zone; sp. 9—10 × 6.

GOMPHIDIUS, Fr.

glutinosus, Schaeff. P. 4—10 cm. obtuse, glutinous, purplish-brown; g. slightly decur. whitish then grey; s. 4—9 cm. whitish, ring indistinct, solid, flesh white, yellow at base; sp. 18—20 × 6—7.

var. *roseus*, Fr. Smaller. P. rosy; s. white, base rosy outside and inside.

viscidus, Sow. P. 5—12 cm. fleshy, at length umb. edge acute, viscid, reddish-brown; g. decur. purple-umber, branched; s. 6—10 cm. yellow-brown, flesh yellow-brown, deepest at base; sp. 18—20 × 6.

var. *testaceus*, Fr. P. and base of s. outside and in brick-red; g. plano-decur.

maculatus, Scop. P. 5—7 cm. convex, viscid, whitish, spotted with black when old; g. decur. branched, umber; s. 3—4 cm. cylindrical, yellow, flesh reddish.

var. *Cookei*, Mass. P. 2—4 cm. convex then either subdepr. or gibbous, viscid, whitish with black stains; g. decur. whitish then brownish; s. 6 cm. narrowed downwards, pale then blackish, flesh dark at base; sp. 20 × 5—6.

gracilis, B. P. 2—3 cm. conical then hemispher. sometimes depr. and subumb. vinous brown or tan with gluten that leaves blackish spots; g. decur. whitish then bistre; s. 3—5 cm. flexuous, pallid, base yellow; sp. 16—18 × 5.

HYPHOLOMA, Fr.

* FASCICULARES. *Pileus tough, glabrous, bright coloured when dry, not hygr.*

silaceum, Pers. P. 6—8 cm. convex, orange-rufous, edge whitish and silky; g. adnate, grey then olive; s. 6—7 cm. bulbous, shining; sp. — .

Fries says it is solitary, Secretan says caespitose from a common base.

sublateritium, Schaeff. P. 4—9 cm. convexo-plane, discoid, dry, becoming glabrous, orange brick-red, edge pale, flesh compact, whitish; g. adnate, white then smoky olive; s. 6—10 cm. fibrillose, rusty; sp. 8 × 4.

var. *Schaefferi*, Fr. P. yellow; s. hollow, equal.

var. *squamosa*, Fr. P. brick-red, edge yellow with superficial scales, flesh thick, yellowish.

[**transversum**, Gill. P. exp. obtusely umb. glabrous, brick-red, disc darker; g. yellowish, narrowed at both ends, connected by strong veins; s. solid, glabrous, pale above, base rusty.

capnoides, Fr. P. 2—4 cm. convexo-plane, obtuse, very glabrous, yellow or tinged tawny; g. adnate, grey then purplish; s. 5—9 cm. pallid, slightly silky; sp. 8 × 4.

epixanthum, Fr. P. 4—7 cm. exp. subgibbous, silky then glabrous, pale yellow, disc often tawny, flesh yellow; g. yellowish white then grey; s. 7—10 cm. floccosely fibrillose, whitish, apex mealy; sp. 7 × 4.

elaeodes, Fr. P. 2—4 cm. exp. subumb. dry, glabrous, brick-red, flesh yellow; g. green then pure olive; s. 5—9 cm. fibrillose, rusty; sp. 5—6 × 3—4.

fasciculare, Huds. Fasciculate, taste bitter. P. 2—5 cm. exp. subumb. tawny, edge pale; g. adnate, closely crowded, yellow then greenish, subliquescent; s. 6—9 cm. hollow, fibrillose, flesh like that of p. yellow; sp. 7 × 4.

Said to be a parasite on the roots of raspberry.

instratum, Britz. P. 2—4 cm. convex, broadly umb. dark brown, radially rugose; g. adnate; s. 5—7 cm. squamulose and brownish downwards; sp. 8 × 4.

[**aelopodium**, Fr. P. fleshy, convex then plane, obtuse, glabrous, rufescent; g. adnate, yellowish then brownish-olive; s. fistulose with a free tube inside, variegated with minute red squamules.

dispersum, Fr. P. 1·5—2·5 cm. P. fleshy, exp. obtuse, tawny, honey-colour near the edge and silky; s. 5—9 cm. tough, silky-

fibrillose, base brownish; g. subventricose, crowded, then clouded; sp. 7×3—4. (14×6 Sacc.)

[**irroratum**, Karst. P. convex, plane, gibbous, even, tawny honey-colour, edge silky pruinose; g. adnate, crowded, edge dentate, straw-colour then darker and tinged green; s. tough, fibrillosely-silky, pallid, equal, wavy below and with dense rusty down, rooting; sp. 6—8×4.

Smell and taste very sour. Differs from *H. dispersum* in stem and silky silvery edge of p.

** Viscidi. *Pileus naked, viscid.*

[**Gilletii**, Alex. P. exp. glutinous, rusty or ochre, edge lilac; g. adnate, reddish-violet; s. solid, curved, strigosely-squamose, colour of p.

incomptum, Mass. P. 6—9 cm. campan. then exp. broadly umb. viscid when moist, deep bay-brown, tawny-orange when dry, edge wavy; g. olive clouded purple; s. 6—7 cm. rusty squamulose; sp. 8×3·5.

oedipus, Cke. P. 1·5—2·5 cm. hemispher. edge ragged, glutinous, umber edge paler; g. adnate; s. 4—5 cm. enlarged downwards to the bulbous base, ring median; sp. — .

[**Buxbaumii**, Weinm. P. exp. even, glabrous, viscid, yellowish-white; g. adnate, greyish-black; s. solid, long, equal, shining-white; sp. — .

[**Prescotii**, Weinm. P. exp. glabrous, viscid, rufescent; g. adnate, crowded, grey then fuscous-violet; s. stuffed, equal, elastic, white, with pale rufescent squamules.

*** Velutini. *Pileus innately fibrillose, silky or virgate.*

storea, Fr. P. 6—7 cm. convexo-plane, umb. dry, fibrillose with longitudinal fibrils, pale fuscous then pallid; g. adnate, dry, edge white-serrulate; s. 8—10 cm. solid, pallid; sp. — .

lacrymabundum, Fr. P. 5—7 cm. convex, obtuse, piloso-squamose, scales innate darker, whitish then darker; g. adnate, crowded, brownish-purple; s. hollow, fibrillosely-squamulose, whitish, flesh whitish; sp. 10×5—6.

var. *hypoxanthum* (=Ag. *hypoxanthus*, Phil. and Plow.). Base of s. and mycelium yellow; sp. 9—11×5.

Quélet considers this species to be identical with his *Stroph. cotonea.*

pyrotrichum, Holmsk. P. 5—9 cm. hemispher. densely covered with tawny-red squamules of fasciculate hairs; flesh and veil tawny; g. adnate; s. 6—9 cm. fibrillose, tawny; sp. 11×6.

var. *egregius*, Mass. S. with spreading whitish squamules largest near ring.

velutinum, Pers. P. 5—9 cm. campan. then exp. at length obtusely umb. hygr. at first tomentose with adpr. fibrils then glabrous, livid then paler, flesh very thin; g. seceding, brownish-bay, spotted black; s. hollow, silky, pallid; sp. 10—12 × 5—6.

var. *leiocephalum*, B. and Br. Smaller; disc rugged, smooth except margin.

Quélet considers this species to represent the true *Ag. lachrymabundus* of Bulliard, tab. 194.

[**melantinum**, Fr. P. campan. then exp. umber then pale, variegated with black innate pilose squamules; g. adnexed, ventricose, pale umber; s. fistulose, pallid, fibrillosely hispid; sp. 6—7 × 3—4.

[**lepidotum**, Bres. P. convex, exp. subgibbous, chestnut, centre fuscous, with black fibrils which are here and there compacted into squamules, densely striate; g. crowded, almost free, purple-brown, edge fimbriate, white; s. white, apex white-scurfy, veil evanescent; sp. 7—8 × 4—5.

* * * * Flocculosi. *Pileus with superficial, floccose scales which fall away.*

cascum, Fr. P. 2—5 cm. oval then exp. rugulose, becoming glabrous, greyish ochre then pale; g. ventricose, dry, very broad, grey then blackish brown; s. 5—9 cm. hollow, fibrillose, white; sp. — .

[**sylvestre**, Gill. P. conical then exp. obtuse, white at first, soon covered with large, adpressed brown or blackish, fibrillose scales, margin appendiculate at first; g. crowded; s. cylindrical, wavy, white.

punctulatum, Kalchbr. Caespitose. P. 2—3 cm. convex, edge incurved, pallid, minutely squamulose; g. sinuato-adnate; s. 2—5 cm. squamuloso-fibrillose up to ring; sp. — .

[**coriarium**, Vitt. P. convex then depr. discoid, floccosely scaly then almost glabrous, clay-colour, disc darker; g. pinkish then ochre; s. hollow, clavate, apex dilated.

[**intonsum**, Pass. P. flocculosely tomentose, veil membranaceous, appendiculate spreading; g. adnate, rosy then bay, edge white crenulate; s. hollow, white, striate, apex flocculose.

[**artemisiae**, Passer. P. thin, exp. flocculose, edge incurved, white veil evident; g. adnate, crowded, white then fuscescent, edge white, entire; s. thick, white, apex narrowed and striate, base floccose.

* * * * * Appendiculati. *Pileus glabrous, hygrophanous.*

lanaripes, Cke. P. 3—5 cm. exp. edge upturned, centre conical, pallid, squamose, veil attached to margin; g. adnexed; s. 4—7 cm. fibrillose, white; sp. — .

[**coronatum**, Fr. P. exp. obtuse, glabrous, subisabelline centre

darker and variegated with darker spots, edge with tooth-like fragments of veil; g. adnate, closely crowded, very narrow; s. glabrous, even, white.

Candolleanum, Fr. P. 3—6 cm. campan. then exp. bay then whitish, apex tinged ochre, pruinose; g. sinuate, lilac then purple-brown, edge white; s. 4—7 cm. fistulose, slender, fibrillose, apex striate, veil membranous, forming a ring or appendiculate, white; sp. 8—10 × 4—5.

Differs from *H. appendiculatum* in the gills being lilac or violet when young.

[**violaceo-atrum**, Letell. Caespitose. P. conical then exp. umb. dusky violet; g. brownish violet; s. fistulose, even, whitish.

appendiculatum, Bull. P. 4—7 cm. ovate then exp. bay then whitish, rugulose, and atomate; g. white then fleshy brown; s. 5—7 cm. glabrous, white; sp. 5 × 2·5. (6—8 × 3—4 Sacc.)

Differs from *H. Candolleanum* by absence of violet in gills when young.

hydrophilum, Bull. (*Bolbitius*, Fr.). Tufted. P. 3—5 cm. convex then exp. often rather wavy and rugulose, glabrous, bay then ochre; g. adnexed, crowded, with beads of moisture, fuscous-cinnamon; s. 4—5 cm. pallid; sp. 5 × 3, rusty cinnamon.

Differs from *Psil. spadicea* in the rusty cinnamon gills and spores.

[**sublentum**, Karst. P. tough, campan.-convex, exp. obtuse, wavy, rugulose towards the edge which is silky from veil, glabrous, hygr. smoky rufous or brown then pale; g. adnate, purplish brown, edge white, flocculosely crenate; s. fibrous, hollow, white, veil append.; sp. 8—10 × 4—5.

[**subpapillatum**, Karst. Caespitose. P. exp. wavy, glabrous, rough with minute crowded warts, bay or rufous-cinnamon then pale ochre and wrinkled; g. dry; s. equal, silky-shining, apex striate and pruinose, becoming pale; sp. 5 × 2·5—3.

Differs from *Hypholoma appendiculatum* in granulose p.

catarium, Fr. P. 1·5—2 cm. hemispher. exp. ochraceous then pale; g. adnate, white then fuscous; s. 3—4 cm. white, rather shining, base thickened and white-floccose; sp. 6 × 3.

leucotephrum, B. and Br. Tufted. P. 5—7 cm. campan. exp. whitish, rugose, append.; g. grey then blackish; s. 6—9 cm. apex coarsely striate, ring ample; sp. 10 × 6.

[**felinum**, Pass. P. hemispher. exp. glabrous, hygr.; g. adnate, white, then fuscous; s. fistulose, short, slender, somewhat shining, base thickened and white floccose, apex striate.

egenulum, B. and Br. Solitary. P. 2—3 cm. exp. umb. watery white, smooth, edge appendiculate; g. purplish umber, edge white; s. 4—5 cm. fistulose; sp. — .

pilulaeforme, Bull. P. 1·5—2 cm. globose then exp. even, fuscous then ochre; g. white then brownish; s. 2—3 cm. white, at first with a ring; sp. — .

PANAEOLUS, Fr.

* *Pileus viscid, shining when dry.*

leucophanes, B. and Br. P. 2 cm. campan. obtuse, whitish, satiny, edge with fragments of veil; g. adnate, edge white; s. 4—5 cm. white, slightly wavy; sp. 11—13 × 7—8.

egregius, Mass. P. 4—5 cm. ovate-campan. even, orange-brown; g. adnexed, broad, edge paler; s. 9—12 cm. pale brown; sp. 15—17 × 7—8.

phalenarum, Fr. P. 2—5 cm. campan.-convex, obtuse, greyish then yellowish, veil append.; g. broad, greyish then black; s. 6—10 cm. equal, pruinose, pale rufescent; sp. 10 × 6.

Differs from *P. papilionaceus* in viscid p.

* * *Pileus not viscid, moist, subflocculose when dry.*

retirugis, Fr. P. 2—3 cm. globose then hemisph. subumb. pinkish tan, atomate, opaque, with anastomosing raised ribs; g. greyish black; s. 5—9 cm. equal, pruinose, purplish; sp. 11—13 × 7. (15—20 × 8—9 Sacc.)

Margin often appendiculate.

[**remotus**, Schaeff. P. campan.-convex, subumb. flocculosely-rugulose when dry, smoky-tawny; g. free, at length remote, ventricose, black; s. fistulose, slender, fuscescent; sp. 11—12 × 8—9.

sphinctrinus, Fr. P. 1·5—2 cm. parabolic, obtuse, even, moist, grey or smoky-black, livid and rather silky when dry, veil append.; g. adnate, grey or olive then blackish with a very narrow white edge; s. 4—7 cm. sooty grey, apex even; sp. 15—17 × 9—10.

* * * *Pileus not viscid, smooth, rather polished, zoneless.*

campanulatus, L. P. 2—3 cm. campan. slightly viscid, sooty grey, paler and the cuticle often cracking or peeling when dry; g. adfixed, crowded, grey spotted with black, often with beads of moisture; s. fistulose, rufescent or reddish-grey, everywhere pruinose, summit striate; sp. 8—9 × 6. (15—18 × 9—13, Sacc.)

papilionaceus, Fr. P. 2—3 cm. hemispher. pruinose, greyish, cracked into squamules when dry; g. broadly adnate, very broad, grey spotted with black; s. 6—9 cm. whitish, apex with white meal; sp. 11—12 × 7. (18 long, Quélet.)

[**subfirmus**, Karst. P. convex then plane, centre subdepr. but also subumb. even, glabrous, shining, disc subrugulose, dry, pale, smoky line often present near edge; g. adnexed with decur. tooth, lanceolate, black; s. wavy, glabrous, pale, apex flocculosely scaly; sp. 12—14 × 7—9.

caliginosus, Jungh. P. 2 cm. campan. obtuse, even, brown; g.

adnexed. lanceolate ; s. 4—7 cm. equal, even, naked, colour of p. ; sp. 10 × 6—7. (16—18 × 10 Sacc.)

[**Quéletii**, Schulz. Solitary, hygr. P. conical, even, pale umber disc fuscescent ; g. free, ventricose, blackish, edge white ; s. straight, thinner upwards, tinged reddish ; sp. 13—14 long.

* * * * *Pileus dry, with a dark marginal zone.*

subbalteatus, B. and Br. Caespitose. P. 3—5 cm. convex, hygr. fawn-colour, rugose when dry ; g. adnate, edge white, serrulate ; s. 4—6 cm. red-brown, fibrous, white-fibrillose ; sp. 14—15 × 8—9.

acuminatus, Fr. P. conico-campan. 1·5—2·5 cm. thin, glabrous, shining, pinkish-buff, with a dark line near the edge ; g. adnexed, very broad, whitish then grey, finally dusky bistre ; s. 2—3 cm. slender, fistulose, whitish, shining, base brownish, thickened, white and downy ; sp. 18 long.

[**guttulatus**, Bres. P. convexo-exp. often subumb. edge involute then spreading, black, then disc tawny, at first with grey bloom ; g. colour of p. edge white pruinose then fringed with drops ; s. equal, fistulose, tinged fuscous then greyish-scurfy ; sp. 10 × 4.

fimicola, Fr. P. 2 cm. campan.-convex, obtuse, grey then yellowish ; g. adnate, broad ; s. 5—9 cm. pallid, with white meal upwards ; sp. 16 × 8—10.

var. *cinctulus*, Bolton. P. reddish-cinnamon ; s. dingy brown.

[**hypomelas**, Batt. P. exp. rufous-tomentose, disc blackish ; g. crowded, intensely black ; s. stuffed, narrowed downwards, greyish-white.

[**gomphodes**, Batt. P. campan.-convex, gibbous, dusky rufous, pannose when dry ; g. free, blackish ; s. stout, rigid, ascending, flocculose, rufescent, veil arachnoid.

[**Larchenfeldii**, Schulz. P. subgl. silvery, silky shining, subumbil. deeply sulcate, edge grey, wavy ; g. irreg. plicate ; s. hollow, with brown fibrils.

PSATHYRELLA, Fr.

* *Stem straight, glabrous.*

subatrata, Fr. P. 2—3 cm. campan. obtuse, rufous-umber, paler when dry, edge striate ; g. adnate, crowded ; s. 8—10 cm. fistulose, white then pallid ; sp. 12—15 × 6—8.

gracilis, Fr. P. 2—3 cm. campan. smoky or greyish then rosy, slightly striate only when moist ; g. broadly adnate, edge rosy ; s. 6—7 cm. fragile, straight, pallid ; sp. 7 × 3·5. (12—14 × 6—8 Sacc.)

Pileus tinged rose and rugulose when dry.

[**longicauda**, Karst. P. convex, glabrous, pellucidly striate to umbo, smoky yellow, hygr. ; g. adnate, crowded, blackish purple, edge

white ; s. fistulose, equal, subglabrous, apex white-mealy, remarkably rooting ; sp. 13—16 × 7—9.

Differs from *P. gracilis* in larger sp., white edge to g., and rooting stem.

[**squamifera**, Karst. P. campan. obtuse, pellucidly striate to middle, rugulose, livid fuscous, pale tan when dry, with scattered, white fibrillose scales; g. adnate, entirely grey then fuscescent; s. equal, silky, apex pruinoso-flocculose then almost glabrous, pallid, base oblique, strigosely rooting ; sp. 11—13 × 6.

Differs from *P. gracilis* in silky s., gills all one colour, &c.

[**impatiens**, Fr. P. thin, campan. obtuse, livid yellow, furcato-sulcate ; g. adnate ; s. straight, weak, white ; sp. 12—15 × 6—8.

[**biformis**, Schulz. P. conic, even, glabrous, white then tinged flesh-colour ; g. sinuato-adnexed, ventricose ; s. filiform, glabrous, even, whitish ; sp. 11—14 × 6.

hiascens, Fr. P. 2—3 cm. campan. brownish, fisso-sulcate ; g. adnato-linear ; s. 3—4 cm. straight, glabrous, white ; sp. 7 × 3·5. (10—12 × 7—10 Sacc.)

[**gracilipes**, Pat. P. persistently campan. sulcate up to disc, reddish-brown ; g. nearly free, broad, blackish, subdeliquescent ; s. slender, tall, rigid, hollow, whitish, ring median, very distinct, fugacious ; sp. 8 × 4.

arata, B. P. 2—3 cm. campan.-conic, rather acute, brown then paler, coarsely sulcate ; g. free ; s. 8—12 cm. white ; sp. — .

trepida, Fr. P. 2—3 cm. campan. obtuse, fragile, densely and finely striate, dusky ; g. ventricose, crowded ; s. 6—7 cm. pellucid, hyaline ; sp. 12 diam.

hydrophora, Bull. P. 2—3 cm. campan. then exp. and striate, edge revolute, disc rufous ; g. adnate, crowded, narrow ; s. 5—7 cm. straight from a curved base, white, beaded with drops of water ; sp. 11—18 × 7—8.

[**graveolens**, Sacc. Smell strong. P. convex, exp. obtusely umb. blackish fuscous, silky-atomate ; g. rather crowded, broadish, black ; s. slender, cylindrical, glabrous, fuscous ; sp. 5—6 × 2.

[**ampelina**, Foex and Viala. P. conical then exp. almost smooth, pale brown, thin, slightly pilose ; g. crowded, narrow, rosy violet then greyish brown ; s. white, shining, springing from a copious creeping mycelium ; sp. 4—5 long.

** *Stem more or less flexuous, apex mealy.*

caudata, Fr. P. 3—5 cm. conico-campan. striate, hygr. dry, disc even, pinkish tan ; g. adnate, very broad ; s. 7—11 cm. slightly narrowed to rooting base, whitish ; sp. 12—15 × 6—9.

[**circellatipes**, Ben. Caespitose, hygr. P. conico-campan. pilose then glabrous, rufous-brown then tawny ochre, at last pale ochre ; g. blackish, edge white, denticulate ; s. long, white or pallid, apex

mealy, base with several delicate, narrow, tawny ochre rings; sp. 13—15 × 8—9.

[**sulcata**, Dun. P. campan. umb. bay then blackish; g. broad, subliquescent; s. stuffed, equal.

[**asperella**, Q. P. cinnamon, apex darker, becoming pale, whitish and transparent, squamulose when young; g. distant, narrowed at both ends, whitish then powdered with the black spores; s. short, thick, cylindrical then elongated, wavy, white, base often swollen; sp. 6—9 × 4.

prona, Fr. P. 1·5—2 cm. hemispher. striate, hygr. smoky, opaque and silky-atomate when dry; g. adnate, grey then dusky-violet, edge often rosy; s. 2—3 cm. equal, flexuous, whitish; sp. 10 × 4—5. (12—18 × 8—9 Sacc.)

empyreumatica, B. and Br. Strong scented. P. 2—3 cm. exp. hygr. rufous then pale and atomate; g. adnate, broad, connected by veins, edge pale; s. 4—6 cm. silkily-scurfy, pale; sp. — .

Closely resembling *Pholiota confragosa.*

[**infida**, Q. P. conical, 1 cm. very thin, floccosely downy, greyish bistre; g. adnate, triangular, distant, creamy then flesh-colour, finally bay with a white edge; s. fistulose, filiform, wavy, somewhat pruinose, pinkish bistre; sp. 12 long.

atomata, Fr. P. 2—3 cm. campan. obtuse, slightly striate, hygr., rugulose, atomate, pale ochre, whitish, or tinged rose when dry; g. adnate, broad; s. 4—5 cm. slightly flexuous, white, apex scurfy; sp. 10 × 4. (13—15 × 5—8 Sacc.)

Differs from *P. gracile* in flexuous and scurfy s. and not rose-edged gills.

var. *expolita*, Fr. Smaller. P. conical, edge striate; s. undulating, glabrous; sp. 12—14 × 6.

[**subatomata**, Karst. P. campan. obtuse, fragile, deeply striate, hygr. rugose when dry, grey or livid, centre more or less bay, tinged rosy when dry; g. adnexed, ventricose, greyish then black, edge rosy; hyaline, pallid, white when dry, apex pruinose, base fibrously rooting; sp. 10—14 × 5—7.

[**subrosea**, Karst. P. campan.-convex, obtuse, entirely striate, naked, livid fuscous, rosy in dry weather; g. adnate, segmentoid, grey, edge rosy; s. wavy, naked, whitish; sp. 10—13 × 5—6.

[**expolita**, Fr. Small. P. conical, edge striate, and with the wavy stem, glabrous; g. not crowded, greyish-brown; s. 12—14 × 6.

crenata, Lasch. P. 1·5—2 cm. hemispher. sulcate, edge crenate, yellowish and atomate when dry; g. adnate; s. 3—5 cm. whitish, striate and mealy upwards; sp. 11—13 × 5—6.

disseminata, Pers. Densely tufted. P. 1—1·5 cm. ovate-campan. furfuraceous then naked, sulcate, yellowish then grey; g. adnate; s. 2—3 cm. lax, scurfy then glabrous; sp. 6—10 × 3—5.

[**consimilis**, Bres. and Henn. P. conico-campan. exp. hyaline yellowish at first then centre yellowish, edge greyish-fuscous, striate, glabrous; g. rotundato-adnate, white then flesh-colour, then blackish-

brown, edge white fimbriate ; s. hyaline white, fibrillose then almost glabrous ; sp. 6—7 × 3·5—4, cystidia fusoideo-ventricose.

[**subtilis**, Fr. P. campan. obtuse, almost glabrous, hygr. pellucidly striate when moist, ochre then pale ; g. adnate, edge whitish ; s. filiform, lax, glabrous ; sp. 12—16 × 5—8.

With a scurfy veil when young ?

PSATHYRA, Fr.

I. Conopilei. *Pileus conico-campanulate ; gills ascending, adnexed, often free.*

elata, Mass. P. 3—5 cm. high, obtusely campan. even, glabrous, dark brown then pale and atomate ; g. adnate ; s. 9—15 cm. straight, slightly narrowed upwards, white, shining ; sp. 18 × 8—9.

conopilea, Fr. P. 2—3 cm. campan. even, glabrous, bay then pale ; g. slightly adnexed ; s. 8—14 cm. narrowed upwards, white, shining ; sp. 14 × 7.

mastigera, B. and Br. P. 3—5 cm. nearly cylindrical obtuse then conico-campan. with a strong umbo, usually wavy, brown then pale ; g. affixed, umber, edge pale ; s. 6—7 cm. whitish or tinged purple ; sp. 15—16 × 7—8.

glareosa, B. and Br. P. 1·5 cm. campan. grey, striate, minutely tomentose ; g. broadly adnate ; s. 3—5 cm. brown with white fibrils ; sp. — .

[**griseobadia**, Pat. P. hemispher. striate, pruinosely pulverulent, dry, tough, reddish-fuscous ; g. numerous, unequal, entire, adnate, fuscous ; s. slender, glabrous, reddish, dry, tough ; sp. 10 × 7.

[**Loscosii**, Rab. P. thin, campan.-exp. greyish fuscous, sulcate, folds at length granulato-crenate, edge incurved ; g. adnate ; s. long, tough, equal, pallid fuscescent.

corrugis, Pers. P. 3—5 cm. campan. umb. rather rugose, pale ochre often tinged pink ; g. sinuate, adnexed ; s. 4—7 cm. equal, glabrous, white ; sp. 12—14 × 6.

var. *vinosus*, Corda. P. with rosy tinge ; s. short.

var. *gracilis*, Bull. (=*P. pellosperma*, Cke.). Slenderer than type.

[**Barlae**, Bresad. P. campan. exp. purplish brown then reddish umber, centre tawny, reticulately rugulose ; g. purplish then fuscous, edge white ; s. tall, stout, hollow, purplish upwards inside and out, pale below, base strigose, veil white ; sp. 12—15 × 7—8.

[**torpens**, Weinm. P. campan. obtuse, even, becoming pale ; g. dry, brown, edge white ; s. slender, glabrous, white.

var. *astrospora*, Q. Subhygr. very fragile, blackish grey then fuscescent, glabrous ; g. adnato-decur. dusky brown-purple then blackish ; s. straight, rigid, hollow, white, striate and white-mealy above ; sp. black, 11—14 × 5.

tenuicula, Karst. P. very thin, campan. subexp. everywhere striate, whitish, then livid or smoky, pale when dry; g. adnate, pallid then grey; s. usually wavy, hyaline, pellucid, glabrous; sp. 5—6 × 3.

[**subliquescens**, Schum. P. conico-exp. brown-striate, viscid; g. nearly free, subliquescent; s. elongated, attenuated, straight, pale brown.

[**typhae**, Kalchb. Small. P. thin, convex, striate, glabrous, pallid ochre then pale umber; g. nearly free, whitish then fuscous; s. naked, whitish, seated on an orbicular membranaceous arachnoid mycelium.

var. *iridis*, Boud. P. fuscous, striate, umbo rugulose, semipellucid; s. with a median ring; sp. 10—13 × 6—7.

[**stricta**, Trog. P. campan. silky-even, dry, pallid; g. adnexed, subdeliquescent, purplish umber; s. tall, straight, glabrous, white.

gyroflexa, Fr. P. 1—2 cm. conico-campan. striate, atomate, grey, disc rufescent when dry; g. adnexed; s. 3—5 cm. flexuous, silky, white; sp. 8—10 × 4—5.

II. Obtusati. *Pileus campanulato-convex, expanding, glabrous or atomate, gills plano- or arcuato-adfixed.*

spadiceo-grisea, Schaeff. P. 3—4 cm. conico-campan. then exp. subumb. glabrous, striate to middle, hygr. bay then greyish; g. narrow; sp. 8—10 long.

obtusata, Fr. P. 1—2 cm. campan. then exp. obtuse, glabrous, corrugated, hygr. rather shining, umber then pale; g. adnate; s. 2—4 cm. pallid, base incurved; sp. 6—7 × 4.

[**ombrophila**, Karst. P. plane, orbicular, subgibbous, even, granular; g. adnexed, blackish; s. reddish, base subtuberous; sp. yellowish, 4—6 × 2—3.

neglecta, Mass. P. 6—8 mm. convex then exp. even, glabrous, pale ochre, atomate and whitish when dry; g. purple-brown; s. 2—3 cm. rather wavy, white, pellucid; sp. 12 × 6; cystidia abundant, fusiform.

Differs from ***P. urticaecola*** in glabrous p.

[**fagicola**, Lasch. P. thin, campan. obtuse, striate, viscid, greenish-blue, sublivid, fuscescent; g. adnexed then separating, subliquescent, brown.

[**Falkii**, Weinm. P. thin, hemispher.-exp. pellucid, moist, hygr. mealy grey when dry; g. laxly adfixed, ventricose, umber then fuscous-purple.

[**solitaria**, K. Fragile. P. campan.-exp. glabrous, umber, pallid tan when dry; s. fistulose, equal, whitish, fibrillose, base with white down; sp. 6—7 × 3, cystidia ventricose-fusoid.

[**pallens**, Karst. P. convex, even, often rugulose when dry, atomate, naked, whitish when dry; g. subadnate, ascending, grey, edge rosy; s. equal, straight, naked, pallid; sp. 18—25 × 12—13; cystidia fusoid.

III. Fibrillosi. *Pileus and stem floccose or fibrillose at first from the universal veil.*

frustulenta, Fr. P. 2—3 cm. hemisph. obtuse, slightly striate, albo-floccose at edge, pallid brown, hygr.; g. adnate, cinnamon; s. 4—5 cm. rather wavy, flocculose, white; sp. 10 × 4, pale rusty brown. (5—7 × 3—4 Sacc.)

Much like a *Galera* in colour of sp.

[**bipellis**, Q. P. campan. then exp. 2—3 cm. hygr. purple-bay then micaceous and rosy, edge with white silky flecks; g. adnate, rosy then dusky violet with a narrow white edge; s. fistulose, fragile, mealy at the apex, downy then satiny, white, often tinged violet; sp. 15 long.

[**subunda**, Karst. P. conico-convex, exp. umb. atomate, pellucidly striate, even, glabrous, pale tan or pale livid, whitish when dry, with scattered fibrils; g. adnate, crowded, grey then tinged violet, finally brown; s. cylindrical, shining, white; sp. 8—9 × 4.

[**Schulzeri**, Q. (= *Ag. flavescens*, Q.) P. conoid-hemisph. then exp. white, apex yellow or brown, even; g. purple-brown, edge whitish; s. cartilaginous, glabrous, white; sp. 5—8 long.

bifrons, B. and Br. P. 1—2 cm. campan. obtuse, rugulose, brownish-ochre, at first fibrillose; g. adnate, edge toothed; s. 4—7 cm. naked, shining, white; sp. 8 × 4.

var. *semitincta*, Phil. P. pinkish; sp. 12 × 5.

semivestita, B. and Br. P. 1·5—2 cm. ovate-campan. obtuse, even, bay then pale ochre, when young lower half white-fibrillose; g. broad; s. 5—7 cm. white, fibrillose below; sp. 10—12 × 5.

fatuus, Fr. P. 2—3 cm. ovato-campan. then exp. rugose, fibrillose then glabrous, dingy ochre then pale; g. adnate, brown; s. 5—9 cm. white, apex striate, mealy; sp. 12—13 × 6—7.

fibrillosa, Pers. P. 3—4 cm. campan. then exp. slightly striate, fibrillose, livid then pale; g. adnate, very broad behind; s. 4—5 cm. white, fibrilloso-squamulose; sp. 12 × 5—6.

Gordoni, B. and Br. Densely tufted. P. 2—4 cm. campan. pale grey then white, floccose, edge sulcate; g. grey; s. 4—5 cm. white, floccose below; sp. 14—15 long.

helobia, Kalchbr. P. 2—4 cm. campan. then plane with concentric ridges; radiately rugose, subumb. sooty brown, pale when dry; g. adnate, sooty brown; s. 6—8 cm. reddish umber with white squamules; sp. 12 × 6.

pennata, Fr. P. 2—3 cm. campan. obtuse, even, with feathery white squamules, pale ochre; g. adnexed, broad; s. 4—5 cm. villose, silvery; sp. 7—8 × 5.

var. *fimicola*, Bern. P. rusty ochre; g. black, with a decur. tooth.

var. *squamosa*, Karst. Stem everywhere with squarrose white floccose scales; sp. 5—6 × 3.

gossypina, Bull. P. 1·5—2·5 cm. campan. then exp. tomentose, soon glabrous, edge striate, pale ochre; g. adnexed; s. 4—5 cm. tomentose, whitish; sp. 10 × 6.

[**squamosa**, Karst. P. campan. exp. tawny-fuscous, tan and scaly when dry; g. adnate, crowded; s. equal, wavy, undulate, apex mealy then glabrous, shining; sp. 6—10 × 3—5.

Differs from *P. gossypina* and *P. pennata* in colour of p. and smaller sp.

noli-tangere, Fr. Very fragile. P. 1—2 cm. campan.-exp. everywhere striate, hygr. squamulose near edge, pale umber then pale; g. adnate, broad; s. brownish, apex smooth; sp. 12 × 5.

[**laureata**, Q. P. convex, mammilate, glabrous, slightly viscid, greyish bistre, edge with a double row of snow-white flecks; g. subdecur. broad, triangular, greyish lilac; s. pruinose at summit, minutely velvety, clear grey; sp. 8 long.

Resembles *P. noli-tangere* in appearance.

microrhiza, Lasch. P. 2—3 cm. campan. even, dry, atomate, at first yellow-pilose; g. crowded, narrow; s. 4—5 cm. silky, white, rooting; sp. 10—11 × 6.

urticaecola, B. and Br. P. 4—5 mm. campan. flocculent, edge becoming striate, white; g. chocolate; s. 1—2 cm. flocculent, white; sp. 7 × 4.

PSILOCYBE, Fr.

I. Tenaces. *Veil accidental, rarely conspicuous. Stem callous, flexile, often coloured. Pileus pelliculose, often viscid in damp weather, becoming somewhat pale, clear coloured.*

* *Gills ventricose, not decurrent.*

sarcocephala, Fr. P. 4—9 cm. compact, exp. mealy then glabrous, pallid rusty; g. adnate, very broad, grey then purplish bistre; s. 7—12 cm. whitish, apex mealy; sp. 7 × 3·5.

[**pertinax**, Fr. P. convexo-plane, obtuse, reticulately rugose, dusky-brown, disc even; g. adnate, crowded, rusty-brown; s. hollow, fibrillosely striate, pallid.

nemophila, Alex. P. exp. brick-red, even; g. deeply decur. very narrow, edge crisped-dentate; s. solid, pale, fusiformly narrowed.

helvola, Schaeff. P. 2—3 cm. conical then convex, yellow-brown, disc darkest; g. broadly adnate, broad, purple-umber, edge whitish; s. 5—6 cm. flexuous, pale, hollow; sp. obliquely elliptical, warted, 9—10 × 5—6.

atrobrunnea, Lasch. P. campan.-convex, umb. even, brownish; g. adnexed then seceding, rather distant, brownish; s. stuffed, long, fibrillose, apex white-mealy; sp. 9—12 × 5—6.

ericaea, Pers. P. 2—4 cm. exp. viscid when moist, tawny or bay then yellowish and shining; g. adnate, broad, pruinose, at length black, edge white; s. 6—9 cm. tough, pallid; sp. 9—10 × 5.

subericaea, Fr. P. 3—5 cm. convex, obtuse, becoming plane, even, smooth, tawny then pale; g. sinuate, adnexed, broad; s. 3—4 cm. equal, smooth, yellowish, hollow; sp. 10 × 6.

Differs from *P. ericaea* in short s. and attachment of broad g.

[**dichroa**, Karst. P. campan. subumb. edge slightly striate, bay then tan; g. adfixed, broad, brownish-purple, edge whitish; s. pallid then fuscescent, silky.

var. *minor*, Karst. Smaller. P. striate to middle; g. umber.

[**lipophila**, Oud. P. convex, exp. obtuse, glabrous, viscid when moist, pale rusty; g. adnexed then decur. broad; s. whitish, apex white, base with white down; sp. 11—12 × 7.

[**mutabilis**, Karst. P. tough, convex, obtuse, watery umber when moist, tawny when dry, glabrous; g. adnate, crowded, broad; s. hollow, rigid, equal, whitish-silky, tinged rusty especially downwards; sp. 7—10 × 3—4.

uda, Pers. P. 1·5—2·5 cm. exp. dry, rugulose, tawny then yellowish; g. adfixed, purplish; s. 6—10 cm. pale, thin, tough, fibrillose base rusty; sp. 10 × 5. (16—20 × 7—9 Karst.)

var. *polytrichi*, Fr. P. campan.-convex then plano-depr. even, glabrous, dry, pale yellow then whitish, edge pale; g. becoming decur.; s. elongated, wavy, glabrous, pale tawny.

var. *elongatus*, Pers. P. campan.-convex, striate when moist, livid- or greenish-yellow, even and yellowish when dry.

[**corneipes**, Fr. P. campan.-convex, glabrous, bay, edge striate; g. adnate, very broad behind; s. horny, rigid, shining, blackish bay.

canofaciens, Cke. P. 2—3 cm. campan. then exp. disc fleshy, bay, with white fibrils; g. adnate, umber; s. 4—7 cm. colour of p.; sp. 10 × 4, some much larger.

areolata, Klotzsch. P. 3—6 cm. exp. brownish ochre, cracked up into patches; g. adnate; s. 4—7 cm. dingy white, fibrillose; sp. 12—13 × 8.

virescens, Mass. P. 3—5 cm. exp. brown then greenish yellow, cracked into patches; g. adnexed, dingy purple, edge pale; s. 4—5 cm. apex striate, greenish, base white; sp. 9 × 5.

agraria, Fr. P. 2 cm. exp. white, not hygr.; g. adnate, white then brown; s. 4—6 cm. glabrous, white; sp. — .

chondroderma, B. and Br. P. 2—3 cm. campan. bright dark brown, very smooth, sometimes cracked, edge thin, append.; g. adfixed, brown, edge white; s. 4—5 cm. subequal, paler than p., fibrillose, base squamulose; sp. 7 × 3·5.

scobicola, B. and Br. P. 2—3 cm. convex, umbil. white, glabrous; g. adnexed, broad, reddish-brown; s. 2—3 cm. whitish, fibrillose, hollow; sp. 8 × 5, pale.

** *Gills plane, very broad behind, subdecur.*

ammophila, Mont. P. 2—3 cm. exp. umb. yellow-rufous, fibrillose; g. with a subdecur. tooth; s. 4—5 cm. white, lower half clavate and sunk in the earth, striate; sp. 12 × 8. (32 × 23 Sacc.)

coprophila, Bull. P. 1·5—2 cm. slightly viscid, hemispher. then exp. umb. yellowish rufous; g. arcuato-subdecur. broad; s. 3—5 cm. narrowed upwards, white, floccose then almost glabrous; sp. 13—14 × 8.

Differs from *P. bullacea* in absence of striae on p.

bullacea, Bull. P. 1—2 cm. hemispher. then exp. umb. finely striate to middle, rather viscid, bay or brownish brick-red, then pale, often with a white fringe at the edge, cuticle separable; g. adnate, almost triangular, grey then brownish purple; s. 2—4 cm. slender, apex pruinose, fawn, fibrillose, base rusty; sp. 9—11 × 4—7.

physaloides, Bull. P. 1·5—2 cm. campan. then exp. umb. striate, rather viscid, purple brown or bay then pale; g. subdecur. rather rusty then purplish brown; s. 2–3 cm. fibrillose, base bay; sp. 12 × 6.

[**ferrugineo-lateritia**, Vogl. P. convex, subumbil. edge substriate, glabrous, subhygr. rusty brick-red; g. adnato-decur. purple-black; s. cylindrical, colour of p. base white; sp. 7—9 × 4.

[**libertata**, Fr. P. obconic, umbo hemispher. prominent, at first hoarily silky then glabrous, dusky umber then pale; g. deeply decur.; s. flexile.

atrorufa, Schaeff. P. 2—2·5 cm. convex, obtuse, glabrous, edge striate, purple-brown then pale; g. subdecur. broad, brown-violet with a white edge; s. 5—7 cm. pale bay or fawn, pruinose, fibrillose at base; sp. 10—12 × 6. (6—8 × 4—5 Karst.)

nuciseda, Fr. P. 1·5—2 cm. convex, obsoletely umb. rather silky when dry and yellowish, dusky brown at first; g. adnate, broad; s. 2—3 cm. brownish with white down, base narrowed; sp. 8 × 4.

*** *Gills sublinear, ascending.*

tegularis, Schum. P. campan. glabrous, tan, areolately cracked; g. attenuato-adnexed; s. stuffed, narrowed upwards from a thickened base, pallid.

compta, B. and Br. P. 3—4 cm. conico-campan. then exp. subumb. edge striate, pale ochre and atomate when dry; g. broad, adnate; s. 4—5 cm. pale rufous; sp. — .

[**callosa**, Fr. P. conico-campan. obtuse, even, glabrous, dry, white or yellowish; g. adnate, ascending, ventricose, sooty black; s. tough, equal, glabrous, pallid.

semilanceata, Fr. P. 1—2 cm. exp. acutely conical, slightly viscid and striate when moist, pallid, often tinged yellow or green; g. adnexed; s. 4—7 cm. flexuous, pallid; sp. 10—12 × 6.

var. *caerulescens*, Cke. P. rather obtuse; s. bluish at base.

II. Rigidi. *Veil absent. Stem rigid. Gills adnexed, very rarely adnate.*

[**phoenix**, Secr. P. campan. then exp. even, glabrous, hygr. fuscous then pale and shining; g. free; s. stuffed, striate, pallid, subbulbous.

canobrunnea, Fr. P. 4—7 cm. exp. obtuse, subviscid when moist, hygr. fleshy-brown then pale; g. nearly free, brownish purple; s. 4—5 cm. hollow, short, squamulose, whitish or greyish pink, rooting; sp. — .

[**Gilletii**, Karst. P. campan.-convex, often obliquely umb. glabrous, livid grey with olive tinge, umb. tawny, then pale ochre; g. subadnate soon free, grey- then livid-purple; s. fistulose, straight, equal, glabrous, bay, apex paler and pruinose; sp. 10—13 × 5—6.

[**simulans**, Karst. P. conico-convex, exp. usually obtusely umb. glabrous, pale rusty with honey-colour tinge, pellucidly striate, edge at first incurved, yellow tawny when dry; g. greyish with honey or olive tinge; s. wavy, ascending, rather lubricous, shining, bay, apex paler; sp. 4—6 × 3.

spadicea, Fr. Subcaespitose. P. 3—7 cm. glabrous, humid, convex then exp. edge at first incurved, dark bay or bistre-brown then pale; g. adnate with decur. tooth, crowded, whitish then pinkish, at last purple-brown; s. fistulose, equal, rigid, silky, whitish; sp. 10 × 5.

var. *hygrophila*, Fr. Larger. P. fuscous then tan; s. subfusiformly rooting; g. emarginate with a long decur. line.

var. *polycephala*, Fr. Very densely tufted. P. rigid; s. slender, slightly flexuous; g. nearly free, fuscous-umber.

This is the commonest form in Britain.

Hypholoma hydrophilum differs in having fuscous-cinnamon, lachrymose gills.

cernua, Fl. Dan. P. 1·5—2 cm. campan.-convex then exp. glabrous, micaceous, hygr. rugulose and pallid when dry; g. adnate; s. 5—9 cm. white, apex even, pruinose; sp. 8 × 5.

squalens, Fr. P. 2—5 cm. exp. depr. even, glabrous, hygr. lurid then pale; g. adnato-decur. tan then brown; s. 4—5 cm. not rooting, apex striate, colour of p.; sp. — .

[**murcida**, Fr. P. convex, obtuse, slightly striate, hygr. even when dry, bay then tan or rosy; g. adnate, segmentoid, umber; s. slender, fragile, straight, naked.

[**hebes**, Fr. P. exp. obtuse, glabrous, hygr. edge striate, lurid then pale; g. adnate, triangular; s. glabrous, pallid.

foenisecii, Fr. P. 1·5—2 cm. campan.-exp. obtuse, dingy brown then pale; g. adnate, ventricose, umber; s. 4—6 cm. not rooting, pale reddish, glabrous; sp. 10 × 5—6.

clivensis, B. and Br. P. 2—3 cm. hemispher. pale brown then pale ochre or whitish; g. broad, adnate, emarginate, edge pale; s. 3 cm. silky, base subclavate; sp. 10 × 5.

[**vicina**, Fr. P. convex then plane, obtuse, glabrous, umber then pale; g. slightly adnexed, grey then blackish; s. stuffed, wavy, grey, apex pruinose.

catervata, Mass. Densely fasciculate. P. 1—2 cm. campan. obtuse, white; g. slightly adnexed, crowded, edge entire, white; s. 3—4 cm. white; sp. 12 × 4; cystidia fusiform.

COPRINUS, Fr.

Key to the Sections.

I. Volva distinct with a free edge; ring present or absent. p. 228.

II. Volva absent; ring present on stem. p. 229.

III. Volva and ring absent. Veil practically absent. Pileus either glabrous or with minute innate squamules, especially near the apex, not splitting along the lines of the gills. p. 231.

IV. Volva and ring absent. Veil very evident—at least in a young state—as a felty coating, which breaks up during expansion of the pileus into patches, cottony, squamulose, fibrillose or mealy. Not glistening nor micaceous. p. 231.

V. Volva and ring absent. Pileus covered with glistening micaceous particles when young. p. 236.

VI. Volva, ring, and veil absent. Flesh very thin, pileus soon splitting along the lines of the gills, scurfy or glabrous. p. 237.

I. *Volva distinct, with a free margin; ring present or absent.*

* *Large; pileus more than 2 cm. high and wide.*

† *Stem white.*

sterquilinus, Fr. P. 5—7 cm. high, coarsely sulcate, silvery grey, disc tawny with squarrose squamules; g. free; s. 9—15 cm. white, dark when bruised; volva with free margin, sometimes a ring on stem; sp. 18—20 × 11—12.

[**solstitialis**, Sacc. P. cylindric-ovate, whitish with concentric over-lapping scales, expanding and blackish, grooved; g. free; s. white, base volvate, ring imperfect.

Smaller than *C. sterquilinus*, and stem not blackish when bruised.

oblectus, Bolton. P. 3—5 cm. coarsely striate, whitish, glabrous, then pale tawny and sprinkled with rose-coloured powder; g. free; s. 8—12 cm. white; volva with recurved edge; sp. 18 × 11—12.

†† *Stem coloured.*

umbrinus, Mass. At first entirely enclosed in a white volva, which leaves patches on p. P. 4—5 cm. umber, sulcate up to disc; g. free; s. 10—15 cm. umber, margin of volva recurved; sp. 17—18 × 9.

Differs from *C. stenocoleus* in sulcate pileus and umber stem.

[**stenocoleus**, Lindbl. P. 5—8 cm. umb. even, blackish with white squamules; g. free; s. 10—15 cm. pale tawny; margin of volva free; sp. — .

** *Small; pileus less than 2 cm. high and wide.*

† *Volva entire.*

[**cyclodes**, Fr. P. 1·5—2 cm. high, campan. striate, glabrous, bay; g. soon black; s. 4—5 cm. white, rather flexuous; edge of volva recurved; sp. — .

[**equinus**, Chelch. P. ovate then campan. greyish white, disc darkest, covered with darker scurf or flecks; g. free; s. long, glabrous, base rather swollen, volva with a free edge which sometimes breaks away as a ring; sp. 5—6.

[**Trappenii**, Oud. P. campan. 1—1·5 cm. apex with fragments of volva, then glabrous; g. purplish then black; s. 1—1·5 cm. white, volva entire; sp. — .

volvaceo-minimus, Crossl. P. 4—5 mm. striate, grey with white squamules; g. slightly adnexed; s. 2—2·5 cm. glabrous, hyaline, base bulbous, volva with broad free edge; sp. 6—7.

Differs from *C. Hendersonii* in distinct volva and subglobose sp. *C. bulbillosus* differs in absence of a marginate volva.

†† *Volva torn into shreds.*

dilectus, Fr. P. 1·5—2 cm. very thin, campan., obtuse, finely striate, rosy white then tawny, furfuraceo-floccose with rosy meal, at length splitting, revolute and naked; g. free, sublanceolate, crowded; s. 5—7 cm. whitish and powdered with rosy meal, base thickened, volva reduced to squamules; sp. — .

Differs from *C. oblectus* in very rudimentary volva, and generally smaller size.

roseotinctus, Rea. P. 7—11 × 5—7 mm. cylindr. then revolute, umb. brown with rosy meal; g. adnexed, broad; s. up to 5 cm. bulbous, white, with rosy meal when young; sp. 9—11 × 5—6.

Perhaps too closely allied to *C. dilectus*.

II. *Volva absent, ring present on stem.*

* *Large; Pileus 8—15 cm. high.*

comatus, Fr. P. cylindr. then campan. 9—15 cm. high, whitish or tinged ochre, becoming broken up into large reflexed scales; g.

very slightly adnexed; s. 12—20 cm. white, base bulbous, rooting, ring loose; sp. 12—14 × 8—10. Edible.

var. *clavatus*, Q. P. ovate, g. free white then black, no intermediate pink colour; s. without a ring.

ovatus, Schaeff. P. 8—10 cm. high, ovate then exp. striate, soon broken up into broad adpressed scales; g. free; s. white, base bulbous, rooting, ring deciduous; sp. 12 × 8. Edible.

Differs from *C. comatus* in smaller size, and ovate form when young.

atramentarius, Fr. P. rather fleshy, 8—12 cm. high, ovate then campan. fluted, edge uneven, silvery grey, apex squamulose; g. free; s. 10—16 cm. white, hollow, ring basal, evanescent; sp. 12 × 6. Edible.

soboliferus, Fr. P. thin, ovate then exp. plicate below, disc truncate, brownish with darker squamules, rest greyish white; g. free; s. 12—20 cm. white, stuffed, ring fugacious; sp. 15 × 7. Edible.

Differs from *C. atramentarius* in squamulose truncate disc, stuffed stem, and larger spores.

[**pyrenaeus**, Q. P. narrowly ellipt. up to 10 cm. long, striate, pearl grey, with a dense veil of free white fibrils; g. free; s. 10—15 cm. hollow, white, ring basal, fugacious; sp. subgl. 12—18.

Differs from *C. atramentarius* in white veil.

[**praegnans**, Fr. P. campan. 18—20 cm. high, not striate, grey, crowded with white squamules; g. free, umber from first; s. solid, fusiform, rooting, squamulose, ring free; sp. — .

Differs from *C. atramentarius* in solid s.

** *Small; pileus never exceeding 3 cm. high.*

Hendersonii, Fr. P. subcylindrical then exp. up to 1 cm. apex tawny rest grey, fluted, minutely pruinose; g. free; s. 3—4 cm. with a permanent ring below middle; sp. 10—12 × 6.

[**bulbillosus**, Pat. P. 8—10 mm. grey disc yellow, striate, covered with white meal; g. grey; s. 2—3 cm. white, base bulbous, ring loose, median; sp. 8—9 × 6—7.

Differs from *C. Hendersonii* in bulbous stem.

[**ephemeroides**, Fr. P. campan. plicato-sulcate, whitish, disc tinged yellow, up to 1 cm. sprinkled with superficial flecks; g. free; s. 2—4 cm. whitish, ring free, base with a pilose bulb; sp. 11—12 × 6—7.

Differs from *C. bulbillosus* in squamulose pileus and strigose bulb.

var. *muscorum*, sp. 7—9 × 6—8.

[**scauroides**, Godey. P. ovate then campan. striate, white then purplish, floccosely squamulose; g. free; s. white, with a marginate bulb and ring.

[**Bresadolae**, Schulz. P. subcylindrical, greyish-white, apex tinged brown; g. black, edge white; s. tapering upwards, white, glabrous, ring deciduous.

III. *Volva and ring absent. Veil practically absent; p. either glabrous or with minute innate squamules, especially near the apex, not splitting along the lines of the gills.*

** Gills attached to the stem.*

fuscescens, Fr. P. 4—6 cm. ovate then exp. not lobed, disc fuscous, rest greyish brown, powdered with meal at first; g. narrow towards the front; s. white, hollow, somewhat fibrillose; sp. 8—10 × 5—6.

Differs from *C. atramentarius* in rufous p. not lobed.

[**tergiversans**, Fr. P. conical then exp. 6—12 cm. rusty brown, grooved, cracked into squamules; g. broadly adnate; s. white, apex sulcate.

Allied to *C. micaceus*; differs in squamulose and not micaceous p.

[**Lerchenfeldii**, Schulz. P. hemispher. apex elevated, brownish grey, edge wavy silvery grey then violet; g. violet, shining; s. fibrillose or squamulose.

*** Gills free.*

[**cylindricus**, Fr. P. cylindrical then exp. 8—12 cm. across, rimosely striate, a few adpr. squamules, whitish brown; g. narrow; s. 15—21 cm. equal, fibrillose.

[**Mayrii**, Allesch. P. campan. exp. white, striate, small yellow-brown squamules near edge, disc sparingly scaly; g. free; s. white, striate, base globose, marginate, hollow to swollen base; sp. 6—7 × 3—4.

Allied to *C. atramentarius*.

flocculosus, Fr. P. ovate then exp. 4—7 cm. across, dingy white, striate, squamules innate; g. narrow; s. 6—10 cm. white, silky, hollow; sp. 10 × 7—8.

Differs from *C. aratus* in white p., and from *C. lagopus* in glabrous stem.

squamosus, Morgan. P. 4—6 cm. sulcate, grey, with persistent spreading brown scales; g. free; s. 9—14 cm. with brown spreading scales up to ring; sp. 9—10 × 5.

IV. *Volva and ring absent. Veil very evident—at least in young state—as a felty coating, which breaks up during expansion of p. into patches; cottony, squamulose, fibrillose or mealy. Not glistening or micaceous.*

** Veil thick and felty, breaking into patches.*

† Gills attached to stem.

aphthosus, Fr. P. campan. even, livid, 2—3 cm. white veil at

first continuous then broken into floccose patches; g. adnate; s. 5 cm. white, hollow, fibrillose; sp. 15—16 × 10.

Differs from *C. varicus* in hollow stem.

[**phaeosporus**, Karst. P. conico-cylindrical then flattened, everywhere delicately striate, at first enclosed in a rufescent veil which breaks up into patches, soon naked and white; g. adnexed; s. glabrous, white, hollow; sp. 9—15 × 4—9.

Differs from *C. albus* by glabrous s.

†† *Gills free.*

picaceus, Fr. P. campan. glutinous, striate up to disc, blackish with white patches; g. free; s. 10—15 cm. white, hollow, base swollen; sp. 14 × 8.

tomentosus, Fr. P. cylindr. then narrowly conical, at length exp. 2—3 cm.; pallid yellow, covered with a greyish felt which breaks into scales; g. free; s. 5 cm. hollow, greyish, velvety; sp. — .

[**velatus**, Q. P. cylind. then exp. 2—3 cm. yellowish, sulcate, veil white, thin; g. free but close to s.; s. 4—6 cm. white, villose, coarsely striate; sp. 10 × 5.

[**Forquignoni**, Mass. (*C. Quéletii*, Forq.). P. conico-campan. veil thick, ochraceous, then broken up into persistent patches, whitish, 5—6 cm. high; g. remote; s. white, floccosely fibrillose, ending in a tawny bulb; sp. 9 × 6.

[**varicus**, Fr. P. white or livid towards the split edge, with patches of white veil; g. free; s. 6—9 cm. often incurved, white, glabrous, solid, tough.

Differs from *C. picaceus* in white p. and solid s.

** *Veil breaking up into superficial scales, cottony or fibrillose.*

† *Gills attached to stem.*

§ *Pileus white or grey.*

niveus, Fr. All pure white. P. 1—2·5 cm. campan. floccose; g. slightly adnexed; s. 5—8 cm. hollow, villose; sp. 16 × 11—13.

var. *astroideus*, Fr. P. squamose, naked, grey, 1 cm.; s. up to 8 cm. slender, glabrous.

[**albus**, Q. Snow white. P. ovoid then exp. 1·5—2 cm. floccosely mealy then pearl grey and grooved, with tawny flecks at disc; g. adnate, seceding; s. coarsely striate upwards; sp. 12—13 long.

[**Rostrupianus**, Hansen. White. P. thin campan. then exp. tomentose, squamulose; g. free, grey then blackish; s. narrowed upwards, glabrous above, downy below, base with white tomentum.

Medium sized, allied to *C. niveus*.

[**pilosus**, Beck. P. cylindr. apex rounded, white, densely covered with septate acute white hairs, then exp. and centre almost glabrous and yellowish, edge slightly striate; s. slender, pubescent, base floccose; sp. 9—12 × 6—7.

exstinctorius, Fr. P. 3—5 cm. across, campan. whitish, apex tinged brown, at first with evanescent floccose scales; g. reaching stem; s. 8—12 cm. smooth, white, hollow, swollen at base and rooting; sp. 10—11 × 6—7.

Differs from *C. fimetarius* in pileus becoming bald from disc to margin.

[**roris**, Q. P. soon convex and centre depr. pearl grey, transparent, covered at first with a thin tawny-white veil, 1—1·5 cm.; g. adnate; s. 3—4 cm. greyish, villosely floccose; sp. 11—12 long.

Differs from *C. plicatilis* in adnate g. and from *C. diaphanus* in villose stem.

similis, B. and Br. P. ovate then campan. pallid disc darker, striate, studded with brown tipped pointed warts, 2·5 cm.; g. adnate; s. white, hollow.

[**Brunandi**, Q. P. campan. 5—6 mm. high, very delicate, striate, greyish lilac, at first with crystalline interwoven filaments; g. adnate then free; s. white, floccose, bulbous; sp. 10 long.

Allied to *C. lagopus*.

§§ *Pileus tawny or brownish.*

domesticus, Fr. P. campan. obtuse, sulcate, disc even, bay, rest paler, scurfy-floccose, 4—7 cm.; g. adnexed; s. 6—9 cm. white, silky; sp. 11—12 × 7.

[**alopecia**, Fr. P. 6—7·5 cm. campan. obtuse, sulcate, pale brown or ochre, at first with adpr. fibrils; g. adnexed; s. 9—12 cm. densely scaly, hollow.

[**Boudieri**, Q. P. 1—2 cm. campan. coarsely striate, pale tawny apex darker, covered with fine white down; g. adnate; s. 3—4 cm. white, pruinose and pubescent; sp. angularly globose, 10—12.

[**subcoeruleo-griseus**, Schulzer. P. acutely conical then plane, slightly striate, disc pale yellowish-pink, rest greyish blue, with minute fugacious scales; g. adnexed; s. white, floccosely pruinose, then glabrous, hollow; sp. 10—13 × 6—8.

†† *Gills free.*

§ *Stem glabrous.*

nycthemerus, Fr. P. conico-cylindr. then exp. 1·5—2 cm. plicate, ribs forked near edge, mealy then naked, grey, disc tawny; g. free; s. 5—7 cm. white, glabrous, flaccid, hollow; sp. — .

[**gonophyllus**, Q. P. 1·5 cm. hemisph. striate, blackish grey, shining, veil floccose, whitish, soon disappearing; g. free, triangular, edge serrate; s. 3 cm. glabrous, slightly striate, white; sp. 10 × 4.

Spraguei, B. and Curt. P. conical then campan. 1·5—2 cm. tomentose, striate, greyish, disc tawny; g. few, distant; s. 3—5 cm. pale reddish ochre; sp. 10 × 5.

Spegazzinii, Karst. P. cylindr. or oval, then exp. and splitting up to disc, greyish, soon naked and grooved; g. free; s. white, hollow, thickened below and rooting; sp. 9—14 × 5—6.

platypus, B. and Cke. P. white then yellowish, flocculose, 4—5 mm.; g. free; s. 1·5—3 cm. base discoid; sp. 8 × 6.

§§ *Stem floccose or pulverulent at first.*

narcoticus, Fr. Foetid. P. cylindric-clavate then exp. 1·5—2 cm. hyaline, striate, at first with white floccose squamules; g. free; s. 4—5 cm. white, downy at first, hollow; sp. 11 × 5—6.

[**muralis**, Allesch. Smell strong, ammoniacal. P. cylindr. then campan. white then grey, covered with white floccose squamules; g. free, narrow; s. equal, hollow, floccosely scaly then glabrous, white, shining, base densely fibrous; sp. subg. 6.

lagopus, Fr. P. cylindr. then campan. coarsely striate up to brown disc, at first with white flocci; g. free; s. 10—15 cm. everywhere with white floccose down; sp. 14—16 × 10—12.

Differs from *C. narcoticus* in absence of smell. *C. lagopoides* differs in tomentum breaking up into scales, and g. very distant from stem.

[**lagopoides**, Karst. P. campan. sulcate, disc livid, with free white scales, 4—7 cm.; g. distant from stem; s. up to 17 cm. white, floccose; sp. 6—8 × 5—6.

macrocephalus, B. P. cylindr. then campan. striate, ashy grey, disc brownish, sprinkled with pointed scales, 2 cm.; g. free; s. 3—5 cm. dingy white, fibrillose below; sp. 11—13 × 7—8.

Differs from *C. lagopus* in dark grey p.

[**tigrinellus**, Boud. P. elliptic-oblong then campan. striate, snow-white edge becoming rosy, pulverulent, with tawny flecks; g. free; s. 2 cm. white, base rather bulbous and often with blackish flecks; sp. 11 × 7.

Differs from *C. Friesii* in being at first covered with brown tomentum which breaks up into flecks.

[**Friesii**, Q. P. elliptic-oblong then exp. 1—2 cm. finely striate, white apex tinged yellow, edge rosy; g. free, reddish then black; s. 2 cm. white, pulverulent, base swollen and floccose; sp. angularly glob. 10.

Differs from *C. tigrinellus* in not having a brown veil.

[**cupulatus**, E. Jacob. P. subcampan. greyish yellow, with a floccose greyish white veil then pubescent, sulcate, 4—5 mm.; g. free; s. 5—7 cm. white, downy, striate, base swollen; sp. 7—8 × 6—7.

fimetarius, Fr. P. 2—2·5 cm. clavate then conico-exp. soon splitting, disc even brownish, at first covered with squarrose floccose scales, then naked; g. free; s. 10—15 cm. white, squamulose, base solid; sp. 12—14 × 7—8.

var. *pullatus*, Fr. P. with adpressed squamules, soon naked, dark; s. soon smooth.

var. *cinereus*, Fr. P. floccosely mealy then naked, grey; s. rootless, hollow to base.

var. *macrorhiza*, Fr. P. at first with feathery squamules; s. short, rooting.

[**Queletii**, Schulzer. P. ellipsoid-conical then exp. deeply sulcate, whitish, apex glabrous tinged cinnamon, with fugacious flecks; g. free; s. white, flocculose then glabrous, ventricose below, rooting with long brown fibres; sp. 10—12 × 4—6.

[**laxus**, Bres. and Schulz. P. subglobose, grey, disc yellowish cinnamon, granularly floccose; g. free; s. white, tinged brown at base, with white flecks, bending over as it dries; sp. 6—8 × 4—5.

[**Albertinii**, Karst. P. campan. sulcate, greyish-white, disc brownish, with fine network of fibrils; g. free; s. white, silky-floccose; sp. 10—12 × 6.

[**Strossmayeri**, Schulzer. P. digitaliform, then conico-campan. whitish then grey, apex darker, finally pale ochre, with deciduous squarrose scales; g. free; s. white, pruinose, springing from a compact, branching blackish-brown mycelium; sp. 7—9 long.

* * * *Veil formed of white meal, or hyaline vesicles. Not glistening or micaceous.*

tuberosus, Q. P. campan. 3—5 mm. finely striate, white then greyish, veil of hyaline vesicles; g. blackish violet; s. 2—4 cm. slender, wavy, white, downy, springing from a small black sclerotium; sp. 12 long.

Smaller than *C. niveus*, and springing from a sclerotium.

[**cineratus**, Q. P. campan. 1—2 cm. striate, white then greyish violet, veil of dusky hyaline vesicles; g. free, close to stem; s. 4—6 cm. white, base rather swollen and sheathed by remains of a volva; sp. 10 × 5.

filiformis, B. and Br. P. 1—2 mm. cylindrical, striate, grey, mealy; g. linear; s. 1—1·5 cm. slender, hyaline, sprinkled with hairs; sp. subg. 5 × 4.

[**luxoviensis**, Mont. P. ovoid then campan. striate, mealy then naked and grey, disc tawny; g. distant; s. with spreading fibrils, soon naked, white, springing from a spreading mycelium; sp. — .

[**caducus**, Harz. P. oval then cylindrical, striate, grey then blackish brown, at first densely covered with white meal which becomes grey; g. from a collar; s. greyish brown above, whitish below; sp. 9—10 × 6—7.

[**Britzelmayri**, Sacc. and Cub. (= *C. macrosporus*, Brit.) P. and s. covered with snow-white meal; g. adnexed; s. tall; sp. 20 × 10—12.

[**albulus**, Q. P. almost hemispherical, 5 mm. pellucid, striate, pulverulent; g. arcuately adnate; s. 2 cm. filiform, pulverulent, lower half with white flecks; sp. 13 long.

[**divergens**, Brit. P. parabolic, brownish then dark grey, deeply striate; g. blackish-grey; s. pellucid, whitish; sp. 10—11 × 6—7.

Intermediate between *C. tomentosus* and *C. niveus*.

V. *Volva and ring absent. Pileus covered with glistening particles when young.*

micaceus, Fr. P. 3—6 cm. oval then campan. glistening then naked, sulcate, tawny ochre; g. adnexed; s. 5—8 cm. white, silky, hollow.

[**marcescens**, Karst. P. campan. sulcate, whitish at first, soon dingy ochre, then pale sooty grey, disc brownish yellow, micaceous; g. adnexed; s. white, silky; sp. 6—9 × 4—6.

Differs from *C. micaceus* in p. becoming sooty grey.

aratus, B. P. 5—8 cm. narrowly elliptical then campan. umber, grooved up to disc; g. slightly adnexed; s. 10—15 cm. snow-white, silky, hollow; sp. 15 × 10—11.

stercorarius, Fr. P. 2·5—3 cm. ovate then campan. edge striate, densely covered with white glistening meal; g. adnexed; s. 7—12 cm. white, hollow, minutely mealy at first; sp. 14—15 × 8.

C. niveus differs in tomentose p., and *C. albus* in sulcate p.

radians, Fr. P. ovate then campan. 2·5—5 cm. edge striate, disc granuloso-squamulose, tawny ochre then pale, glistening; g. slightly adnexed; s. 3—5 cm. white, smooth, base with dense radiating strands of mycelium; sp. 7 × 4.

truncorum, Fr. P. globose at first then campan. glistening then naked, tawny ochre, striate, 2—4 cm.; g. free, rosy then black; s. 7—10 cm. slender, white, glabrous, hollow; sp. 12—14 × 6.

Differs from *C. micaceus* in. p. being globose at first, and not sulcate, and in free, rosy g.

[**inamoenus**, Karst. Foetid. P. subcylindrical then exp. blackish with white micaceous scurf; g. fixed to a remote collar; s. hyaline, at first downy, often rather wavy, several stems springing at intervals from a prostrate mycelium; sp. 7—11 × 4—6.

[**intermedius**, Peuzig. P. campan. pallid, even, with dense reddish micaceous scurf near apex; g. free; s. glabrous, tinged pink; sp. 7·5—9 × 5.

[**frustulosum**, Sacc. P. campan. rather acute, even, covered with reddish micaceous meal; g. free; s. conical then cylindrical, white; sp. 8 × 6.

VI. *Volva, ring, and veil absent; flesh very thin, pileus soon splitting along the lines of the gills, scurfy or glabrous.*

* *Pileus more or less scurfy.*

† *Gills attached to stem.*

§ *Pileus white.*

[**conditus**, Godey. P. globose then ovoid, striate, sometimes tinged yellow; g. adnate; s. 20—25 mm. shining, scurfy; sp. — .

[**stellaris**, Q. P. ovoid then campan. 1—2 mm. striate, snow-white then greyish, crowned with pellucid vesicles; g. adnate; s. 1—2 cm. long, filiform, hyaline, velvety; sp. 8 long.

§§ *Pileus coloured.*

[**coöpertus**, Fr. P. conico-campan. 2·5 cm. striate, lurid, densely micaceous, yellowish grey when dry; g. adnate, broad; s. 3—5 cm. pallid, apex with white flecks; sp. — .

[**pseudo-plicatilis**, Vogl. P. campan. umb. soon exp. and sulcate, yellowish grey, umbo yellowish, scurfy; g. adnate; s. white, woolly, thickened and floccose below; sp. 6—8 × 3.

velox, Godey. P. obovate, striate then grooved, scurfy between the ribs, disc also greyish and scurfy, 3—4 mm.; g. close to stem; s. 1·5—3 cm. with white floccose down; sp. — .

ephemerus, Fr. P. very delicate, ovate then campan. sulcate, slightly scurfy, disc elevated, even, rufescent, 1—2 cm.; g. slightly adnexed; s. 3—6 cm. glabrous, whitish, pellucid; sp. 16—17 × 9—10.

[**mycenopsis**, Karst. P. campan. then exp. sulcate, sooty-grey, livid disc prominent, scurfy, soon naked; g. adnate; s. tall, glabrous, white, striate upwards; sp. 7—8 × 4.

†† *Gills free.*

§ *Stem fibrillose or downy.*

cothurnatus, Godey. P. conico-campan. then exp. and umb. densely scurfy, whitish, yellowish or reddish, 2—3 cm.; g. free; s. 3—5 cm. white, squamulose below; sp. — .

[**evanidus**, Godey. P. obovate then campan. striate, whitish, rather scurfy, disc prominent, tinged brown; 3—4 mm.; g. free, distant; s. 1·5—2·5, pellucid, white, downy; sp. — .

§§ *Stem glabrous.*

sociatus, Fr. P. ovate then campan. plicate, subsquamulose or scurfy, disc umber and becoming depr. 2 cm.; g. narrowed behind,

attached to a collar; s. 4—5 cm. white, glabrous, not pellucid; sp. — .

Gills much nearer s. than in *C. plicatilis*, much narrowed behind, black.

[**sulcato-crenatus**, Steinh. P. cylindrical then campan. soon plane, sulcato-crenate, almost glabrous, yellow, disc brown, even, becoming depr.; g. remote from stem, distant; s. yellow, apex brown; sp. obtusely triangular, compressed.

Differs from *C. plicatilis* in yellow p. and s.

[**Patouillardii**, Q. P. conico-campan. then plane, coarsely striate up to disc, grey, disc rough with minute reddish granules; g. attached to collar distant from s.; s. 4—7 cm. white, glabrous, fragile; sp. angularly globose, 6—8.

Differs from *C. nycthemerus* in white s.; and from *C. velaris* in rough disc.

papillatus, Fr. P. elliptical then campan. becoming plane and upturned; disc prominent and rough with minute warts, dark, striate, covered with greyish scurf, ·5—1 cm.; g. free; s. 2·5 cm. white, hyaline, hollow; sp. 15 × 7.

[**affinis**, Karst. P. conico-cylindr. then exp. greyish white, disc pale rufous, plicate, scurfy; g. free; s. flaccid, glabrous, pallid; sp. 6—8 × 5—7.

radiatus, Fr. P. cylindrical, soon plane and splitting, yellowish, disc darker, then whitish, minutely pilose when young; g. almost free; s. 1—3 cm. hyaline, pilose; sp. 7—8 × 5.

Gibbsii, Mass. and Crossl. Very minute, p. 0·5 mm. hemispher. then exp. striate, glabrous, pale ochre; g. adnate, few; s. 4—7 mm. white, glabrous; sp. subcircular, compressed, 8—9 diam.; cystidia piriform.

[**lanatus**, Boud. P. soon campan. plicately striate, greyish rufous disc darker; g. free; s. glabrous, white, slightly bulbous.

** *Pileus glabrous.*

† *Gills attached to stem.*

§ *Stem downy or pulverulent.*

tardus, Karst. P. ovoid then campan. 2·5—5 cm. coarsely striate, bay then ochre, glabrous; g. adnate; s. 6—10 cm. white, slightly flexuous, equal; sp. angularly ellipt. 12—18 × 7—9.

Differs from *C. deliquescens* in smooth disc and adnate g.

[**Gilletii**, Jacobasch (= *Cop. intermedius* Gill.) P. ovato-campan. grey, disc yellow, pulverulent then glabrous, edge striate; g. ovato-elongate, blackish; s. slender, glabrous, hollow, with a membranaceous, distant, fixed erect ring.

[**attenuatus**, Gill. P. conico-campan. even, glabrous, edge sulcate, upturned when dry, apex yellowish; g. broad, ventricose, reddish-brown; s. long, slender, hollow, narrowed towards base.

§§ *Stem glabrous.*

[**auricomus**, Pat. P. elliptic-oblong then campan. finely striate, pale greyish red disc darker, glabrous, 1·5—2 cm.; g. adnate; s. 5—8 cm. white, glabrous; sp. — .

Young plant enveloped in a golden yellow weft (= Ozonium).

congregatus, Fr. P. cylindrical then campan. edge slightly striate, glabrous, viscid, ochre, 1·5—2 cm.; g. slightly adnexed; s. 2—3 cm. smooth, hollow, white; sp. — .

alternatus, Fr. P. hemisph. then discoid, even, glabrous, chalk-white disc pale umber, 3 cm.; g. adnate; s. whitish, hollow, 7—10 cm.; sp. 10 × 6—7.

digitalis, Fr. P. ovate then campan. whitish disc darker, glabrous, striate up to disc, 2·5 cm.; g. slightly adnexed; s. 3—5 cm. whitish, equal; sp. — .

When mature the p. is sometimes livid olive or yellowish grey, and g. appear to be adnate.

[**diaphanus**, Q. Every part translucent and glabrous. P. grooved, edge crenulate, silvery with a central tawny spot, 5—7 mm.; g. adnate; s. capillary, glabrous, 2—3 cm.; sp. 12 long.

Differs from *C. plicatilis* in adnate g.

[**sceptrum**, Fr. P. campan. papillately umb. deeply sulcate, pellucid, tinged grey; g. adnate to a collar; s. pellucid.

erythrocephalus, Fr. P. cylindrical then campan. reddish vermilion becoming grey, silky, edge very finely striate, 1 cm.; g. slightly adnexed; s. 2—3 cm. paler than p.

†† *Gills free, sometimes attached to a collar.*

§ *Stem downy or pulverulent.*

[**Godeyi**, Gillet. P. subglobose, distantly grooved, glabrous, pellucid, disc ochre, grey between the ribs, 3—4 mm.; g. free; s. 2 cm. pellucid, sprinkled with white flecks below.

[**semistriatus**, Pat. P. ovate then campan. glabrous, disc even, yellowish, striate and grey up to disc, 1 cm.; g. attached to a collar; s. 1—2 cm. white, pruinose; sp. subcircular, compressed, 12—14 broad, 3 thick.

§§ *Stem glabrous.*

plicatilis, Fr. P. thin, cylindric ovate then plane, glabrous, coarsely grooved, pale brown then greyish, disc broad, even, at length depr. darker, 1—2 cm.; g. attached to a distant collar; s. 5—8 cm. white, smooth, hollow; sp. 11—13 × 8—9.

deliquescens, Fr. P. ovate then campan. at length exp. livid grey, disc rufescent, papillose, otherwise glabrous, 3—7 cm.; g. free; s. 7—10 cm. white, glabrous, hollow; sp. 8 × 5.

Differs from *C. atramentarius* in free gills.

[**miser**, Karst. P. subglobose then exp. pellucid, tinged grey, plicate, glabrous; g. distant from stem, few in number; s. hyaline, glabrous; sp. 7—9 × 6—8.

eburneus, Q. Entirely white, shining; elliptic-campan. firm, striate, rarely with a few flecks, 3—4 cm.; g. free; s. firm, glabrous; sp. 14 long.

hemerobius, Fr. P. ovate then campan. 1·5—2·5 cm. coarsely grooved, disc even, bay, not depr.; g. attached to an imperfect collar; s. 5—8 cm. fragile, pallid; sp. 10—12 × 7.

Differs from *C. velaris* in imperfect collar, and from *C. plicatilis* in disc not being depressed.

[**rapidus**, Fr. P. cylindrical then plane, coarsely grooved, pale drab, glabrous, often slightly wavy, 1·5—2·5 cm.; g. free, close to stem, brown; s. 4—5 cm. white, glabrous.

[**phyllophilus**, Karst. P. campan. then exp. glabrous, sulcate, dingy ochre becoming sooty; g. close to stem; s. pellucid, pruinose then naked; sp. angularly ovate, 7—8 × 5.

[**velaris**, Fr. P. 2·5 cm. at first globose, then hemisph. coarsely striate, lurid, disc brownish, not depr.; g. black, edge white; s. 5—7 cm. pellucid, base downy; sp. 7—8 × 5.

[**pellucidus**, Karst. P. obovate then hemispher. obtuse, sulcate, glabrous, whitish or yellowish then hyaline and greyish with a darker central spot; g. crowded; s. wavy, glabrous, pellucid; sp. 7—9 × 4.

Schroteri, Karst. P. elliptical then exp. sulcate, glabrous, dingy ochre then pale, at length sooty-grey; g. brown; s. slightly pulverulent at first, slightly striate upwards; sp. angularly globose, 13—15 × 8—12.

var. *proximellus*, Massee (= *C. proximellus*, Karst.) Spores elliptical, 10—13 × 5—7, otherwise as type.

MONTAGNITES, Fr.

[**Candollei**, Fr. P. 3—5 cm.; g. narrowed behind, broad, dark grey then blackish; s. elongated fibroso-striate, hollow, tawny, volva fleshy, persistent.

[**Pallassii**, Fr. P. thin, plane; g. smooth, black; s. very long rooting, volva absent; sp. 12 + 4.

ADDENDA.

Species accidentally omitted, or published during the progress of this work.

Lepiota Bresadolae, Schulz. (= *L. cupreus*, Schulz.). P. 4—8 cm. umb. subcylindrical then broadly campan. at first glabrous and entirely coppery, then broken up into broad, fibrillose subimbricate scales; g. remote, narrowed at both ends, crowded, white then pallid; s. clavate at base which is coppery, pale above, ring white then coppery; sp. 6—9 long.

(Next *L. mastoidea*, p. 8.)

Lepiota minuta, Vogl. P. 6—8 mm. slightly fleshy, even, campanulate then exp. brick-red, viscid; g. free, white, densely crowded; s. equal, even, dry, brownish, with a very narrow ring; sp. globose, 2—3.

(Near *Lepiota delicata*, p. 14.)

Schulzeria, Bresad.

Flesh of stem distinct from that of pileus; gills free and remote from the stem; spores hyaline; ring and volva absent.

This genus follows *Lepiota*, from which it differs in the absence of a ring.

Schulzeria squamigera, Schulz. and Bres. P. about 2 cm. rather fleshy, convex then exp. dry, umber at first then whitish, surface broken up into fibrous brownish-umber scales; g. crowded, subventricose, white, free, somewhat remote from stem, 3 mm. broad; s. equal, whitish, with lax umber scales which soon disappear; flesh white, compact; sp. 5—8 × 4.

Schulzeria rimulosa, Schulz. and Bres. P. 8—10 cm. fleshy, hemispher. then exp. rather irreg. even, glabrous, dry, lurid white, epidermis falling away then becoming areolately cracked; g. rather distant, 9—15 mm. broad, white then straw-colour, rounded at both ends, sometimes subsinuate behind, free, remote; s. equal, subexcentric, glabrous, colour of p.; sp. 5—6 × 3.

Schulzeria septentrionalis, Karst. P. about 10 cm. fleshy, soft, convex then exp. subumb. even, glabrous, dry, whitish; g. free, remote, broad, whitish, somewhat crowded; s. central, equal, base slightly bulbous, distinct from flesh of p. glabrous, whitish.

Tricholoma Czarnii, Roum. (= *Ag. prasinus*, Lasch. in part). P. 6—8 cm. very fleshy, convex then convex-plane, rather viscid, yellowish, disc darker, glabrous, edge slightly fibrillose; g. crowded,

arcuate, broad, emarginate, pallid, rosy in section; s. solid, straight, clavate, slightly striate, colour of p., not longer than thick; sp. — .

Allied to *T. coryphaeum*, differing in general aspect of p., g. never yellow-edged, less viscid, and no smell.

(Next *T. coryphaeum*, p. 17.)

Tricholoma Bresadolae, Schulz. Taste very acrid. P. 9—12 cm. entirely fleshy, irreg. edge sinuous, sometimes depressed at the centre, rather viscid when young, then dry, even, edge sometimes tuberculoso-sulcate, umber; g. distant, very thick, rounded in front, narrowed behind but not decur., 1 cm. and more broad, whitish; s. cylindrical, obconic or cuspidate towards base, whitish, sometimes tinged umber, glabrous; sp. 9—10 × 5.

(Next to *T. spermaticum*, p. 18.)

Tricholoma fallaciosum, Quel. and Schulz. (= *Ag. platyrhizus*, Schulz.) P. 4—5 cm. irreg. subglobose; vertex elevated but not umb. fleshy, brown, at first very dark then paler at edge, not shining, glabrous, even; g. partly free, rounded behind and cuspidate in front, brownish then pale, edge clear cinnamon; s. somewhat conoid, base pale sulphur yellow with copious strands and plates of white mycelium, central portion pale cinnamon, apex white and pulverulent; sp. 4—5 long.

(Next *T. scalpturatum*, p. 20.)

Tricholoma Gauteraudii, Roum. P. 3—6 cm. convex then plane, mammillate, centre pale yellowish, somewhat silky, rest glabrous, even, dry, whitish; g. broad, emarginate, whitish; s. white, base yellowish, solid, equal; flesh white, insipid and inodorous.

(Next *T. inamoenum*, p. 23.)

Clitocybe subviscifera, Karst. P. 3—4 cm. thin, convex then plane, sometimes becoming depr. orbicular or somewhat wavy, even, glabrous, viscid, whitish, disc usually become stained with rufous, then discoloured; g. deeply decur. distant, branched or connected by veins, pallid white; s. hollow, equal, flocculosely-scurfy, pallid; sp. 6—8 × 3—4.

(Next to *C. pithyophila*, p. 82.)

Cortinarius (Phleg.) **centrifugus**, Fr. P. plano-depr. glabrous, viscid, discoid, yellowish brown-violet then yellow, margin verdigris green; g. emarginate, rather crowded, crenulate, pinkish violet then cinnamon; s. solid, stout, clavato-bulbous, almost glabrous, white; flesh white; sp. — .

(Follows *C. Riederi*, p. 178.)

Cortinarius (Phleg.) **latus**, Fr. P. 7—12 cm. exp. almost glabrous, moist, scarcely viscid, tan, disc darker; g. emarginate, subentire, crowded, clay-colour cinnamon; s. solid, fibrillose, pallid white, apex flocculose, cortina forming a superior persistent annulus, bulbous then subequal; flesh white; sp. — .

(Next *C. percomis*, p. 179.)

Cortinarius (Phleg.) **subtortus**, Fr. P. 3—8 cm. convex, exp. obtuse, soft, glabrous, not striate, viscid, tan then pale, becoming rugulose; g. rounded, adnate, connected by veins, very broad, rather distant, greyish olive; s. unequal, rather twisted, becoming pale, apex partly hollow, scarcely tinged blue; sp. —

(Before *C. anfractus*, p. 179.)

Cortinarius (Phleg.) **jasmineus**, Fr. P. exp. gibbous, wavy, lacunose, rugose, viscid, dingy olive, disc at first fuscous then yellowish, opaque; flesh yellowish ochre; g. subadnate, very broad, rather crowded, pallid olive; s. stuffed, subequal, bluish, violet punctate, apex white; sp. — .

(Next *C. anfractus*, p. 179.)

Cortinarius (Phleg.) **elotus**, Fr. Acrid. P. subpulvinate, unequal, glabrous, slightly viscid, sooty then tawny tan, edge darker and at length striate; g. emarginate, rather distant, pallid then olive tan; s. short, fibrillose, pallid, marginate bulb obsolete; sp. —

(Next *C. talus*, p. 180.)

Cortinarius (Phleg.) **arquatus**, Fr. P. equal, even, very glabrous, viscid, discoid, disc bay, edge yellowish, polished and shining when dry; g. subadnate, crowded, purplish then cinnamon; s. solid, pallid, except the obconic marginate bulb, apex tinged blue inside and out; sp. — .

(Next *C. purpurascens*, p. 180.)

Cortinarius (Phleg.) **causticus**, Fr. Smell strong. P. convexo-plane, obtuse, glabrous, punctate, hygrophanous, very viscid, tawny when moist, then pale; g. ventricoso-emarginate, scarcely crowded, broad, whitish yellow; s. firm, elastic, glabrous, shining white; sp. — .

(Next *C. emollitius*, p. 182.)

Cortinarius (Phleg.) **vespertinus**, Fr. P. convexo-plane, soft, glabrous, obsoletely viscid, subrugose, yellow, sometimes pale; g. emarginate, very broad, crowded, tawny cinnamon, transversely veined, edge whitish; s. solid, elongated, rather slender, fibrillose, shining white, base thickened; sp. — .

(Next *C. intentus*, p. 183.)

Cortinarius (Phleg.) **liratus**, Fr. P. 5—6 cm. thin, convexo-plane, very glabrous, hygrophanous, viscid, radiately lacunose near the edge, honey-colour then somewhat ochre; g. emarginate, crowded, pale rusty; s. filled with pith limited by a dark horny line, equal, fibrillose, yellowish, base thickened; sp. — .

(Before *C. intentus*, p. 183.)

Cortinarius (Phleg.) **amurceus**, Fr. P. convexo-plane, squamulosely papillose, viscid, sometimes gibbous, honey-tan; g. entirely adnate, distant, yellowish olive; s. solid, pallid, somewhat attenuated; sp. — .

(Next *C. olivascens*, p. 183.)

Coprinus purpureophyllus, Jacobasch. P. 1—2·5 cm. conico-

campan. torn, diaphanous, pale greyish-yellow, sulcate up to apex, covered with grey squamules which soon disappear; g. white then intense purplish violet, finally blackish, linear, ascending, crowded, adnexed, deliquescent; s. white, silky, generally curved, narrowed upwards from the subbulbous strigose base, apex white-mealy, remainder glabrous, fragile; sp. 7·5—8·5 × 5·5.

Growing on birch branches.

(Next to *Coprinus roris*, p. 233.)

CORRECTIONS.

Armillaria focalis, Fr. (p. 14), should be placed in the genus *Lepiota*, following *L. naucina*, Fr., p. 11.

Cortinarius subsimilis, Fr. (p. 183), should be placed under the section "*Gills olive or smoky*," p. 183.

Cortinarius Karstenii, Sacc. and Syd. This name should replace *Cort. olivascens*, Karsten, p. 191. There is an earlier *Cort. olivascens*, Fries, p. 183.

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